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BUSINESS WEEK



THE BUSINESS WEEK
MAGAZINE
OF THE BUSINESS WEEK
GROUP OF MAGAZINES

BUSINESS
WEEK
DEX

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Black "Magic" 24 Hours a Day.

HOW A SPECIAL LUBRICANT HELPS
MAINTAIN CAPACITY PRODUCTION!



TO HELP MAINTAIN
CAPACITY PRODUCTION
CALL IN

SOCONY-
VACUUM



for Correct
Lubrication

DRIP...DRIP...DRIP — those black drops perform a "magic" all their own.

They carry, *in solution*, a special tough, tacky lubricant that usually needs to be heated before applying.

But, as you see, this fluid *flows like oil*. Then it changes into a strong, black lubricating film that *sticks on like glue*!

This film takes the jolts of shock loads... protects gears from damaging wear.

You can brush this fluid on or use a mechanical lubricator as in the picture above.

To you, Mr. Business Executive, this is much more important than just a story

about one remarkable kind of lubricating oil.

It's added proof that the job of lubrication is never as simple as it may seem — *proof that it's well worthwhile to use the best experience available*.

We were the first to make lubricants from petroleum, and have worked at it for 71 years. We'd like to put our accumulated "know-how" to work for you.

SOCONY-VACUUM OIL CO., INC.—Standard Oil of New York Div. • White Star Div. Lubrite Div. • Chicago Div. • White Eagle Div. Wadham's Div. • Magnolia Petroleum Co. General Petroleum Corporation of Calif.



D. W. L. Photo

Track of All Trades —and Master of All

typical example of B. F. Goodrich development in rubber

THE endless band rubber track you see on this army scout car started on a farm tractor. It was 'way back 1931 that B. F. Goodrich was the first to develop rubber tracks for slow-moving agricultural tractors.

Now this track is being used on vehicles designed for fifty-eight different military purposes! It makes possible deadly tank destroyers, fast scout cars, gun carriers, and other combat vehicles. It's truly a "track of all trades" and master of all, for the fast, sure maneuverability of the half-track units one of the great military advancements of this war.

In between the first track and those today was one of the most intensive research and development programs ever undertaken by The B. F. Goodrich Company. It was carried through in

cooperation with the U. S. Army Ordnance Department and climaxed with the announcement that these tracks are now to be made with substantial amounts of synthetic rubber. Compounds using synthetic rubber have proved equal in wear resistance to natural rubber.

Rubber tracks enable vehicles to travel cross-country at highway speeds, to cross ditches and streams, to travel through mud or sand that would stop a pneumatic-tired vehicle.

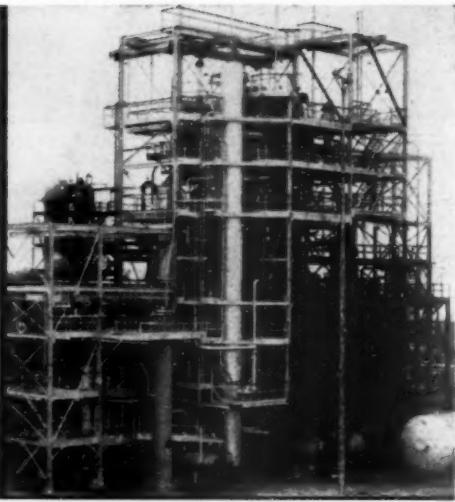
Called "square tires" by some, this continuous band track, in which are embedded steel cables, resists wear on roads and cutting on rock and actually saves almost

500 pounds of rubber per vehicle as compared with the use of combat tires.

Today this great development, another "first" for B. F. Goodrich, is helping to win battles—tomorrow, through peacetime applications on farms and in factories, we hope it will help win the peace.



While Rubber was Plentiful **REPRENE** stood for Synthetic-Improved Products



• For the prompt, efficient attention so important today on needs for Republic Rubber Products—as well as other types of equipment—industry calls on the Republic Distributor. His strategic location, highly trained personnel and complete facilities make him one of war industry's most effective weapons against down time.

FOUR and a half years before Pearl Harbor, Republic announced synthetic-improved mechanical rubber products—branded "REPRENE." After long research and actual field tests in 1937, these improvements had become so evident that there was no hesitancy about adding synthetic products to the Republic line.

"REPRENE" hose and belting were found to have characteristics never possible with natural rubber. Oil resistance was one. Others were resistance to light, heat and age. Since oil and grease and heat are common in most industrial uses, these synthetics then were compounded for new and different products—packing and molded goods. During the war effort, new "REPRENE" products have been developed which never could have been practical with natural rubber. So, for over six years, "REPRENE" branded mechanical products have been giving improved service in many industries.



REPUBLIC RUBBER

YOUNGSTOWN • OHIO

HOSE • BELTING • MOLDED GOODS • DIVISION OF PACKING • EXTRUDED PRODUCTS

LEE RUBBER & TIRE CORPORATION

BUSINESS WEEK

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BUSINESS WEEK • JULY 17 • NUMBER 72

(with which is combined The Annalist and the Magazine of Business). Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw, Founder and Honorary Chairman, Publication office, 99-129 North Broadway, Albany 1, New York. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42ND ST., NEW YORK 18, N. Y. James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President; B. R. Putnam, Treasurer; J. A. Gerardi, Secretary. Allow ten days for change of address. About subscriptions address: J. E. Blackburn Jr., Director of Circulation, Business Week, 330 W. 42nd Street, New York, 18, N. Y.

Subscription rates—United States, Mexico, and Central and South American countries \$5.00 per year. Canada \$5.50 for a year. Entered as second class matter December 4, 1936 at the Post Office at Albany, N. Y., under the Act of March 1879. Return postage guaranteed. Printed U. S. A. Copyright 1943 by the McGraw-Hill Publishing Company, Inc.

Business Week • July 17, 1943

WASHINGTON BULLETIN

WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

Platform for '44

President Roosevelt already has his election platform for 1944. The big question now is what the opposition will do.

Within the last few months, most of Congress has made the uncomfortable discovery that it is the opposition. That's why it has just gone scampering home to figure out the answer during the brief summer recess.

By now the President's strategy is clear. Heavy timbering in his platform will be his record on the military and international fronts.

On the home front, he will make an effort to untangle administrative confusion, hold down prices, get labor in hand, put a damper on interdepartmental feuding.

If he succeeds, he can stand on the results. If his domestic program flops, he intends to hang the blame on congressional opposition, carry the country on the strength of his war performance, and perhaps sweep out any congressmen who can't shake the obstructionist label.

Congress' Move Now

With this in the cards, Congress has to make up its mind about strategy fast. During the hectic sessions of the last two months, it postponed the day of decision on big issues, like taxation and food subsidies, but it can't avoid taking a stand next fall. If the mutineers continue their revolt, they must be sure that their constituents are standing by to back them up. This explains why they were frantic to get home and take a sounding.

The congressmen who come back to Washington in September probably will be a good deal more cautious than the fire-eaters who stormed off to the grass roots.

As the election comes closer, most of the rebellious Democrats inevitably will edge their way back into line behind the President. Republicans will be watching their step to make sure they don't play into Roosevelt's hands and get the blame for the home-front muddle.

The "Loyal Opposition"

This doesn't mean that Congress will be docile or obedient from now on, but chances are that the recess will act as a cooling-off period. Instead of headlong revolt, there's likely to be orderly opposition. This opens the way for an in-

formal peace offer from the Administration and gives the President a chance to do some home-front horse trading without the interference of congressional kibitzing.

World Bank à la Canadienne

Canada's new proposal for international currency stabilization doesn't add much to the British and American plans, except another hypothetical monetary unit as yet unnamed. With a good deal of ingenuity, it manages to straddle the narrow middle ground between the

British program, drawn up by J. M. Keynes, and the plans of the U. S. Treasury.

Yet this innocuousness is an asset: It makes the Canadian proposal good material for compromise, a fact the Canadian authorities undoubtedly had in mind.

Participating nations would subscribe \$8,000,000,000 to an international fund empowered to buy and sell currencies of its members. The formula for determining subscriptions and voting power would take account of gold holdings and national income, as in the American plan. This concession to the United

Coal or the Labor Board—Roosevelt's Choice

That spring coal strike is showing an unseasonal longevity in Pennsylvania (page 94) but nothing compared to the liveliness which it promises to manifest in Washington for a good while to come where government labor policy is staggering under the heavy heritage left by John L. Lewis and his defiance of the National War Labor Board.

NWLB ordered Lewis to sign a contract with the coal operators, and Lewis refused. The President has said that he is powerless to make Lewis comply. Its authority successfully challenged, the board is mortally wounded. Employers who have refused to accept board awards in the U. S. Gypsum and three other unsettled cases (BW-Jul. 3 '43, p96) remain unpunished. Wayne Morse, public member of NWLB and its chief compliance officer, has said that he will not refer another case to the White House for Presidential action until Lewis has been brought to book.

NWLB is consequently unable to enforce any of its decisions except on wage issues, which have behind them the sanction of tax penalties. It faces a graver crisis by far than Lewis forced on it before with his refusal to appear at board hearings. It faces complete disintegration.

It is hard to believe, as some gloomy Washington observers claim, that the Administration is prepared to scuttle NWLB. Much more likely, the White House is counting on the board's membership to forget about Lewis and resume its old routine.

The determination of both em-

ployer and public members of NWLB to have a final showdown with Lewis, however, makes this a fruitless hope. These members feel that they cannot dispense a ridiculously uneven justice which will countenance union defiance but crack down on employers. They are, therefore, pigeonholing all cases where awards are not voluntarily accepted by both parties. Nothing will be done about them, even if the board has to close up shop, until the White House takes Lewis out of the exceptional class.

From a realistic point of view, there is no way to do this—no way to force Lewis to bow to the board—except at the cost of another serious stoppage in coal and steel production. Not even the Connally-Smith Act makes it possible to mine coal with bayonets.

Stopping the checkoff of union dues from miners' paychecks, which federal mine custodians are currently collecting and sending to the Lewis treasury, is exactly the kind of poke at Lewis that NWLB wants. But nothing would precipitate a strike with greater dispatch—and that showdown must be avoided now at all costs.

In another couple of months, bituminous stockpiles might be built up to safety levels and another test of strength with Lewis tried. For the present, though, NWLB remains nothing more than a facade, frail enough to be pushed over by some big dispute—maybe the pending Chrysler case—in which the employer says in effect, "I'll play the Lewis way."



They've got some post-war plans of their own

► The men in this picture are not interested in American post-war plans. They are making plans of their own.

Strangely, both plans have at least one common objective. Both seek to abolish unemployment. But by different methods.

While Americans are planning to provide jobs for free men through private enterprise, the Japanazis would solve the problem by simply making slaves of conquered peoples. In fact, right now there are millions of Frenchmen, Poles, Danes, Czechs, Dutch, Belgians, Greeks, Burmese and Filipinos slaving in Axis war plants . . . being forced to turn out weapons of war for extending this slavery to the entire world.

Which set of post-war plans—freedom or slavery—is finally placed into operation may well be decided on the production lines, in the research laboratories, in the management offices of American in-

dustry. For unless free Americans can beat Nazi slaves in the battle of production, we can lose the war.

Most of America's workers realize this. They are more than willing to work and sacrifice in order to protect their freedom. Take, for example, the 4000 workers who are today engaged in making Ethyl antiknock fluid for use in high-octane military gasolines. These men and women are determined to make good their wartime slogan, "Every drop of Ethyl counts." They are determined to deliver enough Ethyl and deliver it on time, to win the fight on their particular sector of the battle of production.

ETHYL CORPORATION

Chrysler Building, New York City

Manufacturer of Ethyl fluid, used by oil companies to improve the antiknock quality of aviation and motor gasoline
EPA MEMBER REG. U. S. PAT. OFF.



WASHINGTON BULLETIN

(Continued)

States' stake in gold is likely to make the plan a good deal more acceptable here than the Keynes program, which would base voting power entirely on the size of a country's international trade.

Formula for Rail Peace

Jitters over possible government operation of the railroads—to prevent strikes—are quieting. The plain fact is that the government doesn't want the railroads, is thoroughly sick and embarrassed about government operation of the coal mines. Reason: It's holding somebody else's property because a third party (labor) got out of hand.

Two major railroad wage demands confront the railroads and the government. One is a request for an 8¢-an-hour boost for nonoperating employees, which Economic Stabilization Director Fred Vinson once threw out because it got off on the wrong legal foot, but which can come back in new form. The other is a brewing demand for a 30% wage boost by the operating brotherhoods.

Methods for settling the demands still are nebulous, but Washington is sure that the unions aren't anxious to strike and certain that Uncle Sam doesn't want to be a railroader. The substandard test under the Little Steel formula looks likely—was, in fact, suggested by Vinson as a solution to the nonoperating employees.

Flour Subsidy to Come

As soon as gradually rising wheat prices put a general squeeze on the milling industry, OPA and the Commodity Credit Corp. will subsidize flour at the millers' level. Meantime, OPA will very likely forget about that promised rollback on coffee—it's too much trouble for what it's worth.

Decision to subsidize flour was made because it does three politically desirable things: (1) permits the price of wheat to rise; (2) holds the price of bread at March, 1942, levels; and (3) ceilings the price of family flour—most used by low-income families—at October, 1942, levels.

Cash—if There's Real Need

Millers will be given straight money payments to absorb rising wheat costs. But, in preparation for the subsidy, OPA is making a financial investigation of the milling and baking industries to learn how much, if any, of the wheat price rise can be absorbed.

While OPA and CCC may thus add

Food and Shelter Men



In his new job as associate administrator of War Food Administration, Paul A. Porter (left) is back in a familiar furrow. Ten years ago he was in charge of press relations for the original Agricultural Adjustment Administration, later becoming executive assistant to Chester Davis, head of the agency. In 1940 Porter again teamed up with Davis when the latter became Commissioner of Agriculture in the old National Defense Advisory Commission.

Nobody but Davis and Porter then seemed to think that food supply would be a problem in this war.

one new subsidy, one old one is being pulled off, and a second may soon follow.

(1) The five-year-old payments to U.S. millers to enable them to compete with lower-cost Canadian processors selling in Cuba and other Latin-American nations are being yanked as the domestic wheat outlook isn't bright enough to warrant encouragement of exports.

(2) CCC hopes to abolish payments to vegetable oil refiners by getting them a higher price on their byproducts.

Gains, Not Losses, for FCC

Swinging one from the floor, the Federal Communications Commission—regarded by business men as one of the most notable examples of bureaucratic

So Davis and Porter went their ways, Porter to the OPA as its deputy administrator of rent control. During his regime, the Bureau of Labor Statistics index of rents actually moved backwards.

Porter's success in keeping a lid on wartime rents is shared by Ivan D. Carson (right), director of operations of OPA's rent department. Carson has been named acting deputy, and his formal appointment is expected to follow shortly. Carson grew up in the mortgage and real estate business, has been with the Home Owners Loan Corp. since 1934.

dictatorship—has taken the first round in its fight with the congressional investigating committee headed by Rep. E. E. Cox. President Roosevelt's order closing files of the joint chiefs of staff and the Budget Bureau was a haymaker to the committee.

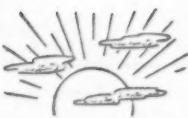
Also, FCC has been getting the best of things in the newspapers, where most congressional investigations really are conducted.

FCC landed an especially solid punch with the charge that Cox had accepted payment for legal services from station WALB at Albany, Ga. This wasn't balanced when the committee came back that FCC's war operations—monitoring and radio detection—were hindering and duplicating military work.

All this leaves the broadcasting industry in an uncomfortable spot. Radio

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YL
N.Y.C.
1943



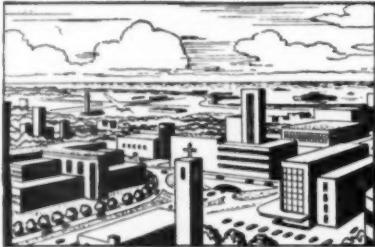
Better Heating -Today and Tomorrow

For fifty years, America's best heated buildings have used steam as a heating medium—steam harnessed and brought under control with Webster Systems of Steam Heating. Today, when excessive fuel consumption is not only wasteful but unpatriotic as well, the building equipped with a Webster Moderator System is assured of heating comfort with minimum fuel consumption. "Control-by-the-Weather" is provided by an Outdoor Thermostat, which automatically adjusts the basic rate of steam delivery with every change in outside temperature.

Architects, engineers, contractors and building owners who are planning building construction or modernization, for both now and after the war, are demanding economy as well as comfort in heating. That is why controlled steam heating plays such an important part in the planning being done today.

Unique in comfort, economy and trouble-free operation, the Webster Moderator System is continuing to gain the approval of men who are planning ahead.

WARREN WEBSTER & CO., Camden, N. J.
Pioneers of the Vacuum System of Steam Heating
Representatives in principal Cities : : Est. 1888



We have a book that gives performance information about the Webster Moderator System of Steam Heating in buildings of every type. It will help you in planning new construction or modernization of existing buildings. "Performance Facts" is yours for the asking. Write for it today.

Webster
Steam Heating

WASHINGTON BULLETIN (Continued)

men had been hoping that the investigation would set the stage for a law trimming FCC's authority over chain broadcasting.



Radar Is Still Hush-Hush

Army and Navy's sudden crackdown on the printed word about radar—after the floodgates were opened only a short time ago—stems from the fact that some discussion was coming dangerously close to revealing vital information. Also, the military—like the general public—is getting impatient with all the ballyhoo.

Probability is that, after the subject has had a few weeks to cool off, the ban will be relaxed somewhat.

Editorial and advertising matter now on the presses is in the clear. But, for the immediate future, Army and Navy are refusing clearance to all advertisements and most editorial articles dealing with radar.



Higher Price If—

When WPB and OPA granted the \$5-a-ton increase in the ceiling on fluor spar (page 78), they tied an unusual string to it. The added \$5 is effective for 60 days only; thereafter, the sales price is up to WPB.

The idea, metal trade experts believe, is to hold a club over producers of fluor spar. The mineral is essential in steel making (240,000 tons would be consumed in an 80,000,000-ton steel output) and in aluminum (70,000 tons for this year's aluminum output). To keep miners on the job, the National War Labor Board recently approved a wage increase figuring out to about \$3.50-a-ton added cost.

Thus approximately \$1.50 of the higher price for the mineral is slated to go to mine operators. If, after 60 days, it appears that any of the mines aren't coming through, WPB can withdraw this \$1.50 sweetener.



Wright Blast Lacks Fire

Unless somebody has additional evidence up his sleeve, the Truman committee's case against the Curtiss-Wright Corp. probably will drag on a while, then die quietly.

Truman has an impressive stack of documents to back up the charge that the management of Wright's Lockland (Ohio) plant, in collusion with Army officers, falsified tests, destroyed records, and changed tolerances in engine production. However, the company insists that any shortcuts it took were no

worse than what any on-its-toes management has to do to slash red tape.

As things look now, the company has a good chance of making its reputation stick, particularly with the Army testifying that the index of failures by Wright engines was no higher than the average for the type.

Navy Sticks to Helldiver

In spite of Sen. Harry Truman's criticism, the Navy is standing by its decision to let Curtiss-Wright go ahead with long-delayed production of the Helldiver bomber (SB2C) for which a \$27,000,000 Defense Plant Corp. factory has been built in Columbus, Ohio.

The company has been having all sorts of trouble getting the kinks out of the Helldiver, and at the moment, dive bombers are going out of military fashion.

The Navy, however, still thinks the ship can be perfected in a matter of weeks. It points out that the Lockheed Lightning (P-38), which now tops the Army's list, was in the doghouse for months and would have been scrapped had not two high officers interceded for it.



Agents' Profits Eyed

Latest to be caught in the widening net of renegotiation are contract brokers and agents. A bill just passed by Congress will make them subject to renegotiation even if they stepped out of the picture as soon as the contract was signed.

In comparison with what prime contractors hand back, recoveries under the new law will be chicken feed, but price adjustment boards think it will be a good antidote for rumors about commission scandals. The boards already have authority to renegotiate brokers who do any continuing work under the contract, but they haven't been able to go after the ones who make arrangements and then retire.



Toothache Limitations

Civilians can have no more cavities in their teeth this year than can the 8,000,000 men in the Army. They better not have, because the Army has ordered 17,000,000 dental burrs for 1943 delivery. Civilians will get the same number.

The Navy has also ordered a staggering number of dentists tools, about 7,000,000 for its 2,000,000-odd men.

—Business Week
Washington Bureau

FIGURES OF THE WEEK

THE INDEX (see chart below).

PRODUCTION

	\$ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
Steel Ingot Operations (% of capacity)	97.0	96.6	97.8	98.1	98.4
Production of Automobiles and Trucks	19,435	18,645	19,065	17,155	22,980
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	\$11,300	\$8,701	\$11,618	\$10,305	\$39,683
Electric Power Output (million kilowatt-hours)	3,919	4,111	4,040	3,953	3,429
Crude Oil (daily average, 1,000 bbls.)	4,090	4,008	3,988	3,821	3,657
Bituminous Coal (daily average, 1,000 tons)	1,725	1,768	524	1,860	2,043

TRADE

	\$ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	81	81	81	73	80
All Other Carloadings (daily average, 1,000 cars)	61	45	41	48	63
Money in Circulation (Wednesday series, millions)	\$17,607	\$17,420	\$17,237	\$15,393	\$12,489
Department Store Sales (change from same week of preceding year)	+39%	+19%	+2%	+5%	-2%
Business Failures (Dun & Bradstreet, number)	33	66	54	95	159

PRICES (Average for the week)

Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	243.8	245.2	244.8	243.1	233.0
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	160.1	160.0	159.8	156.9	155.3
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	210.4	210.3	208.7	198.4	183.4
Finished Steel Composite (Steel, ton)	\$56.73	\$56.73	\$56.73	\$56.73	\$56.73
Scrap Steel Composite (Iron Age, ton)	\$19.17	\$19.17	\$19.17	\$19.17	\$19.17
Copper (electrolytic, Connecticut Valley, lb.)	12,000¢	12,000¢	12,000¢	12,000¢	12,000¢
Wheat (No. 2, hard winter, Kansas City, bu.)	\$1.42	\$1.40	\$1.38	\$1.37	\$1.08
Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	20.98¢	21.07¢	21.10¢	20.41¢	19.87¢
Wool Tops (New York, lb.)	\$1.370	\$1.370	\$1.354	\$1.191	\$1.244
Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢

FINANCE

90 Stocks, Price Index (Standard & Poor's Corp.)	99.1	98.2	95.4	78.9	69.8
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.82%	3.85%	3.89%	4.19%	4.30%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.70%	2.71%	2.72%	2.80%	2.83%
U. S. Bond Yield (average of all taxable issues due or callable after twelve years)	2.26%	2.27%	2.30%	2.32%	2.34%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	1-1%	1-1%	1-1%	1-1%	1-1%

RANKING (Millions of dollars)

Demand Deposits Adjusted, reporting member banks	32,325	32,289	32,061	28,367	25,654
Total Loans and Investments, reporting member banks	45,563	45,843	46,808	41,344	32,366
Commercial and Agricultural Loans, reporting member banks	5,565	5,542	5,637	6,240	6,800
Securities Loans, reporting member banks	1,512	1,438	1,448	1,116	867
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	32,987	33,295	34,141	28,025	18,313
Other Securities Held, reporting member banks	2,983	3,063	3,077	3,284	3,392
Excess Reserves, all member banks (Wednesday series)	1,230	1,210	1,510	2,326	2,322
Total Federal Reserve Credit Outstanding (Wednesday series)	8,117	7,576	6,998	6,378	3,069

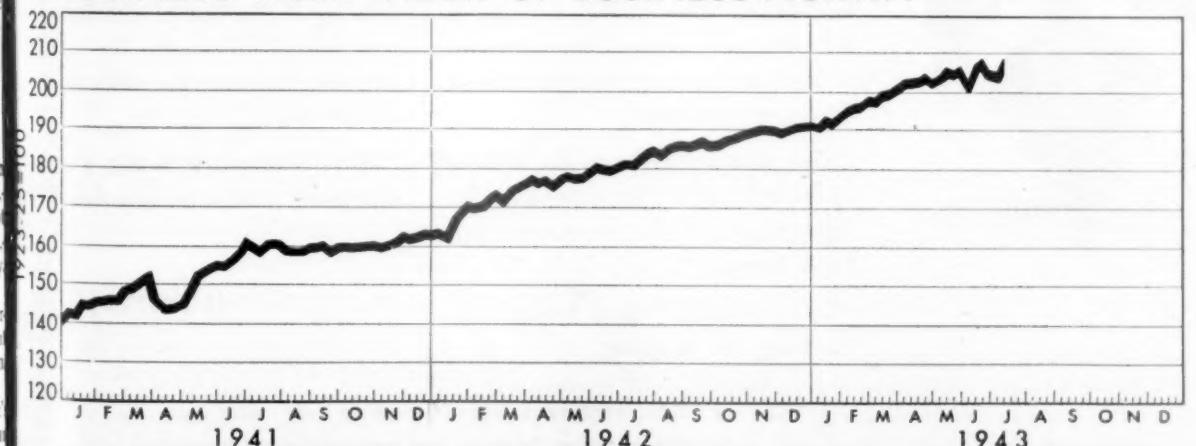
Preliminary, week ended July 10th.

† Revised.

Ceiling fixed by government.

§ Date for "Latest Week" on each series on request.

BUSINESS WEEK INDEX OF BUSINESS ACTIVITY





A Flag with 46,200 Stars

THE service flag of the Bell System had 46,200 stars on May 1. It has a lot more now. Telephone men and women are serving with the armed forces everywhere.

Those who are right in the middle of the fighting realize especially the importance of the telephone job back home.

"Tell the gang," their letters say, "to keep on plugging."

"We wouldn't have the stuff for fighting if the rest of the Bell System wasn't sticking to the job and pushing through the calls that get things done.

"Takes team-work to win a war—especially a big one like this."

BELL TELEPHONE SYSTEM



★ Your continued help in making only vital calls to war-busy centers is more and more essential every day.

THE OUTLOOK

"Beginning of the End"

But peace in Europe seems a year away at the earliest, and meanwhile, pressure continues for ever-increasing munitions supplies. Home front morale focuses attention on civilian needs.

In eight months, from North Africa to Sicily, we have moved from Mr. Churchill's "end of the beginning" to Mr. Roosevelt's "beginning of the end." When will be the end itself—at least in Europe? That question stands in the forefront of the outlook. Every management decision hangs on the answer.

The Pace Quickens

With American munitions output attaining prodigious proportions, with the shipping bottleneck being rapidly widened, and with the pipelines of supply quickly filling up, the war materials requisite for victory are accumulating on all the fronts. Allied offensive momentum is increasing. Operations in independent theaters can be launched simultaneously. Major strategic advances can be made swiftly. Still, the two-month pause between the Tunisian surrender and the Sicilian invasion is the best indication of the time inevitably required for following the growing Allied advantage through, step by step, to the knockout blow. Victory in Europe, therefore, hardly seems nearer than the approximate date previously figured—mid-1944.

Meanwhile, the production pressure is still concentrated on obtaining more overwhelming supplies of munitions faster. Apparently, for the fourth quarter, claimant agencies are requesting again one-third more steel than can be made available under the Controlled Materials Plan.

Added to military demands now are ever-larger allocations for industrial equipment needed in conquered areas. For instance, the WPB has outlined a 1944 locomotive production program double this year's; freight-car orders also run high. Though much less steel is consumed per unit in equipment for foreign use than in that for domestic use, such requirements run to several hundred thousand tons of ingot steel annually.

Car Shortage Threatens

At the same time, the possibility of increased equipment needs for domestic transport is being given more attention. Except for erratic effects of recent coal strikes, carloading totals are again running ahead of yearago levels, despite

all the efforts in the past year to load cars heavier, and otherwise to maximize ton-mileage with minimum loadings. This implies that by the autumn peak the demand for cars may outstrip supply—especially for certain types, at particular times, in some areas.

Possible emergency measures affecting shipping practices include more off-peak season stockpiling, temporary commodity embargoes, reshuffling of movements to export points, zoning restrictions, and priorities on special equipment (BW-Jul.10'43,p27). At this late date, however, it is clear that transport won't prove a basically limiting factor on the economy.

Planning for the Home Front

The civilian economy is coming in for more consideration—belated and inadequate though it is. The effect on war production of a shortage in consumer services, reflected in absenteeism and lowered efficiency, was estimated this week by Mr. Harry Woodhead,

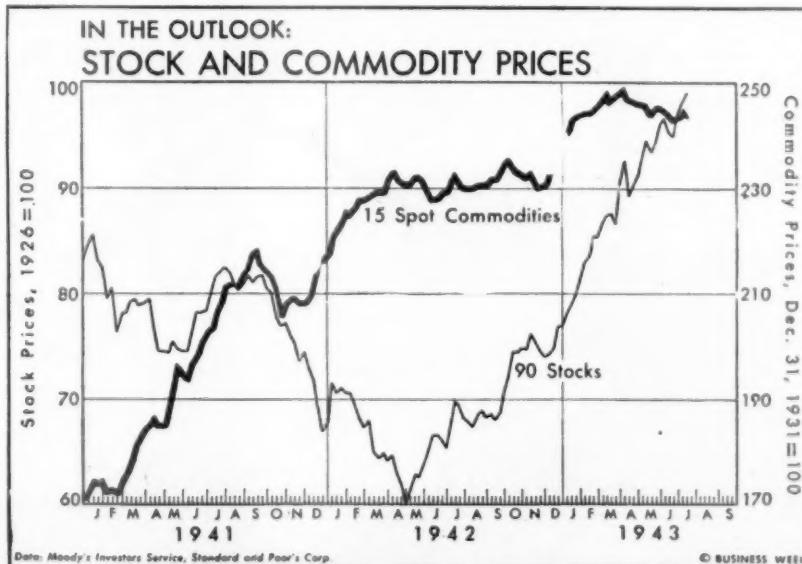
president of Consolidated Vultee Aircraft Corp., in these terms: "We think every worker we can place in a laundry is worth three new workers in our own plants."

Though the manpower shortage is now the chief factor reducing civilian supply—and the factor about which least is being done—some steps are being taken to make the most of what is available with the least disturbance.

The food program announced for 1944 (page 104) places the expected emphasis (BW-Jun.13'43,p14) upon human consumption of food crops rather than livestock consumption of feed; specifically, 16,000,000 more acres are to be planted to wheat.

The new textile program launched by WPB provides for increased output through conversion of looms from bagging (burlap will be substituted) to civilian fabrics, and through a shifting from high-priced to more standardized low-priced lines; consumers will be educated against hoarding, and retailer promotion will take the emphasis off sales pressure.

As for hard goods, because inventories will be "dangerously low" by November, WPB's Office of Civilian Requirements will ask for larger allocations of materials in order to produce "the little things that can upset civilians when missing."



War upset the peacetime parallelism between stock and commodity price curves. First, Allied prospects impinged on stocks while war spending lifted commodities. Then, beginning in April, 1942, price control flattened commodities while the outlook for

war—and earnings—improved. Parallelism was resumed between last December and March, due to the impact of inflation forces on both price movements. However, since the hold-the-line order, commodities have eased while stocks have gone up.

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Gains in Sicily

There's more than simple military strategy involved in this invasion, island's food and sulphur are important.

Strategists and economists see different but interrelated objectives behind the Allied campaign in Sicily: (1) opening of a safe trans-Mediterranean sea route to Egypt and the Middle East; (2) seizure of airfields within bombing range of Austria, Hungary, and Albania, and a boosting of the bomb loads to nearer objectives; (3) creation of a strongly held jumping-off point for the eventual drive up or across the Italian boot; and (4) attrition of the German and Italian economies by depriving them of the small but important supplies obtained from Sicily.

• **Preliminary Advantages**—The cleanup in Sicily may not be quick, but the objectives will be gained before it is completed. Seizure of the southern coastline and the rolling hills in the southeast will almost immediately free the gigantic landing fleet for other operations and

will open ports for direct shipping to the Sicilian front.

Axis resistance may be expected to center about the plains behind Catania. To this arena, three roads and three railroads (one the vulnerable coastal line to Messina which branches to circle Mt. Etna) can supply enemy resistance. Experts believe, however, that no amount of Axis fight will long delay impending operations elsewhere in the Mediterranean.

• **Principal Exports**—Economically, Sicily was an asset to the Axis. Despite a population density above 400 per square mile—serious for a predominantly agricultural province—the island was self-sufficient in basic foodstuffs and an exporter of olives, oranges, lemons, wine, and tomato paste. Annual production of important items is estimated to average 500,000 tons of citrus fruits, 150,000 tons of olives, 4,500,000 gal. of olive oil, close to 100,000,000 gal. of wine, 150,000 tons of beans, and as much as 20,000,000 bu. of wheat.

Except in the central plains, orchard crops dominate the agricultural economy, and low rainfall is a deterrent to stock raising. The months of June, July, and August, with a cumulative rainfall of about two inches, are ideal for in-

vasion but bad for pastures, and the island's stock population, mainly sheep and goats, is probably under 2,000,000.

• **Important Mineral**—Sicily produces over 10% of the world's sulphur and has been the chief supplier of Europe—exports from the U. S. before the war ran under 100,000 tons, and Sicilian output ran close to 400,000 tons. The only other European output—in Spain, Sweden, and Norway plus unimportant production in France and Greece—contributes a total not likely to exceed 150,000 tons. Sicily also exports asphalt, pumice, amber, sponges, and fish—nearly 30% of Italy's catch was in Sicilian waters.

Those who are quick to assess the seizure of Sicilian sulphur as a serious blow to Axis war industries are forgetting the stockpiles of critical materials laid in by the Axis before 1939. And experts point out that even in a long war the ability of German technicians to stretch materials in short supply to cover minimum needs applies also to sulphur.

• **Problem of Civilians**—The fall of Sicily may, in addition to its military importance, merit attention as an extension of economic attrition, but that was by no means an important factor since it hits most directly at civilian food supply.

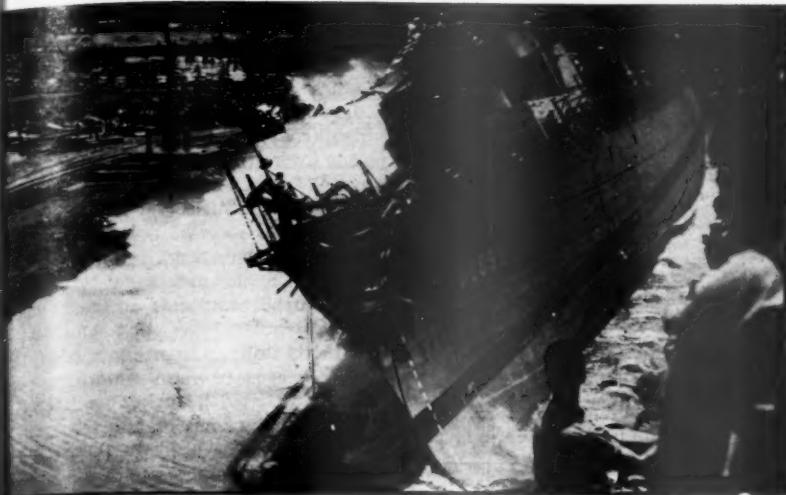
OPERATIONS ON THE "SOFT UNDERBELLY OF EUROPE"



The first of the promised "large-scale amphibious operations" has developed in a powerful drive to amputate Sicily from the body of Axis Europe. Fulfillment of this promise will soon involve any or several of the alternative incisions indicated above. U. S. and Brit-

ish interest in directing the stabilization of Balkan politics, plus the known strength of Middle East striking power, point emphatically to that arena as the one most likely to receive major attention in the near future. Which arrow the attack will follow

depends upon whether Turkey enters the war. A pushover in Sicily might project Allied forces on into the Balkans via the Apulian heel of Italy, but the hop-skip-and-jump into France via Sardinia and Corsica may await a simultaneous cross-Channel blow.



QUICK TURNOVER

Within an hour after the destroyer escort U.S.S. Rich slid sidewise down the ways of the Defoe Shipbuilding Co. at Saginaw, Mich., the hull of another escort—built upside down on an adjacent cradle for ease of welding

and speed of construction—was rolled over into the cradle of the newly launched ship. There it will receive finishing operations such as machinery installation and erection of superstructure. The Rich is one of the three largest warships that have ever been built on the Great Lakes.

Playing Price Control Politics

Administration wins on subsidies, but they can't be used for new rollbacks, only to keep prices at present levels. That complicates regulation, but trade hews plank for 1944 platform

By working an undercover horse trade with Congress, the Administration has nominally recovered its powers to use subsidies and to roll back prices. After a Presidential veto of one bill—extending the life of the Commodity Credit Corp. but banning all subsidies in lieu of price increases—Congress has gingerly passed a new CCC measure with no brakes on subsidies or rollbacks whatsoever (for the next six months, anyway). Presidential approval of this one seems assured.

Hollow Victory—But most of the advantage that the Administration seems to have gained has been wiped out by an agreement with Congress sharply curtailing the way in which the subsidy money can be used. In effect, it can be used only to keep prices at present levels; it cannot be used to roll back the prices of any commodities to earlier levels, excepting in the case of butter and meat on which rollback systems are currently in effect.

This restriction on the use of the money seriously handicaps price control efforts, designed to keep the cost of living at its present level. By rolling back the price of a few critical commodities—foods, for example—the Ad-

ministration would be able to keep the c. of l. in check. It's much more difficult to do this if subsidies can only be applied piecemeal to individual commodities when they get out of line. Instead of taking a few big whacks at the c. of l., the Administration must, under the terms of its agreement with Congress, keep nicking away at the problem, commodity by commodity, item by item, applying producer subsidies to keep prices at present levels.

To win subsidy authority, the Administration made other minor concessions. OPA's grade-labeling program is out (page 16), and the price agency must get rid of some of its famed professors and substitute persons "qualified by experience in business, industry, or commerce" (terms dictated by Congress in the bill appropriating \$155,000,000 for OPA).

• Placing the Blame—In agreeing to the deal, the Administration was angling to get itself into the impregnable position (so it hopes) where stabilization will rebound to its credit, and a breakdown in the future will reflect on Congress. One chirp out of Congress when it comes back, and the White House can unload the blame for everything—in-

cluding the Administration's own mistakes—on the recalcitrants on Capitol Hill.

That the President wants to run for office once more with the domestic situation in good shape is beyond question. However, it is also uncharitably the fact that he has no alternative but to attack the stabilization problem with vigor. Otherwise Congress could turn the tables and hang the blame for failure on the White House.

• What to Expect—Hence, the price and wage control programs will again be reframed. Look for the following (permanency will depend on how Congress feels when it comes back):

(1) Rollback subsidies will continue on meat and butter, because they were already in effect when the deal between the Administration and Congress was made. The effect will be a 1% decrease in the cost of living—which will cost the Treasury something like \$350,000,000 annually.

(2) Uniform area price-ceilings (better known as community ceilings) will be extended on foods and, probably, will be applied to clothing. Result: a 2% reduction in the cost of living by means of the food ceilings alone.

(3) An attempt to keep farm prices from upsetting the stabilization program by slapping on ceilings at the farm level and rigging support prices so that OPA, CCC, and the Reconstruction Finance Corp. will, in effect, be subsidizing the farmer.

(4) Retention of the Little Steel formula on the grounds that labor, as a whole, is doing pretty well, what with time-and-a-half for overtime and vastly greater take-home pay.

(5) A publicity sendoff for this program, when completed, by the President himself.

In a nutshell, this means keeping the cost of living and wage rates where they are right now. That is bound to be extremely ticklish business without the use of new rollbacks.

• Necessity for Stability—Everything now hangs on keeping an index from changing a percentage point or two. Washington has little doubt that the unions, as a whole, will continue to live with the Little Steel formula so long as the cost of living doesn't outrun it by more than 6% or 7%. But if the disparity gets over 10%, the unions will be restive and white collar workers (notably government employees) must get more pay or they will try to jump their jobs.

The rollbacks, which the Administration has had to forswear, would be an Administrative aspiration in such a case. Subsidies, applied to individual commodities when they get out of line with present levels, are likely only to compound the headache by spreading agricultural unrest over every type of farmer in the book and—more importantly—by breeding brawls in the Administration's own house, namely between OPA and the War Food Administration.

• Feeling Is Better—Currently, relationships between the War Food Adminis-

Coup de Grace for Grade Labels

OPA's legal staff has gone into a huddle to determine just how good a job of hamstringing Congress did when it amended the Commodity Credit Corp. bill to compel the price agency to keep hands off grade labels, standards, and specifications. Some sort of official clarification should be forthcoming within a couple of weeks. In the meantime, one thing is certain—Congress left no doubts about its feeling toward grade labeling, and any ambitious plans along this line are out for good.

• **Enough Rope to Hang Itself**—Under the amendment, OPA has authority to order standardization of a commodity if it determines that "no practicable alternative exists for securing effective price control with respect to such commodity." This clause might provide a tent big enough to cover the circus if OPA was of a mind to take advantage of it, though it's a reasonable guess that the agency doesn't intend to invite trouble by over-using it.

Standards and specifications which are in general trade use or which have been made mandatory by another government agency may be taken over by OPA and made the basis for price orders. This clause was designed to take care of such industries as lumber, whose representatives were appalled at the prospect of having prices based on anything but the trade standards now being used. But it also gives OPA considerable leeway. In congressional hearings, Price Administrator Prentiss Brown pointed out that of the 290 standards provisions which crop up in OPA price orders, 159 are accepted trade categories, and another 90 stem from other government agencies. Only 41 were developed by OPA.

• **Grade Labels Already Out**—In banning grade labeling, Congress was, in effect, killing a corpse. Grade labeling of women's hosiery would have eventually become meaningless, since new WPB standards would have made virtually all stockings Grade A except for a few man-

facturers who can't meet this standard. Grade B would have applied principally to stocks on hand (BW—May 22 '43, p.18). And on grade labeling of canned goods, OPA already had been forced to retreat. The big issue of grade labels on cans was settled—the canners' way. The amendment probably will force OPA to do away with the requirement that grades appear on wholesalers' invoices (BW—May 22 '43, p.17).

Roughly, this is how a few of the major price programs may be expected to fare under the amendment:

• **Hosiery**—Grade labeling is out, but standards and specifications, set by WPB, will form the basis for pricing.

• **Canned Fruits and Vegetables**—Grade labeling was based on Dept. of Agriculture grades which are not mandatory but which are generally used in the trade. However Congress' intent on grade labeling of canned stuff was so clear that no attempt can be made to justify compulsory use of the grades at retail, despite trade usage and despite the fact that some packers and chains do put grades on their cans.

• **Meat**—Grading of beef and lamb is required by the Dept. of Agriculture (though only at the slaughterhouse level); so the grade-labeling program for meat probably is in the clear. Abolition of meat grades would raise such almighty hell with pricing and rationing that OPA probably will take all the rope it's allowed here.

• **Sheets**—Manufacturers are required to use on their labels a figure that shows the OPA class into which their products fall (OPA 140, for example). If it is decided that this is grade labeling, it's out, although it has been accepted fairly peacefully by the sheet industry which was accustomed to some degree of standardization before OPA took over.

• **Work Clothes**—There is plenty of confusion here. Work clothes manufacturers were told that if they couldn't make garments at the same price and of the same quality as during a base period, they could make OPA's war model at OPA's price. Question here is whether the specifications to be met by manufacturers who elect the first alternative are really specifications—since a maker is only measured against himself—and whether the standard set up for makers who take the second alternative is really a standard—since it is optional.

tration and OPA are better—on the surface—than they've ever been. Food boss Marvin Jones and price boss Prentiss Brown understand each other. And Paul Porter, former OPA rent administrator and Jones' right-hand man, is himself a low-pricer and a crackerjack executive who can stretch amity. But down in the engine room—among the unnamed hundreds of men who grind

out regulations and attend to the routine, in both OPA and WFA—a cleavage over high vs. low prices persists.

Well aware of it, Jones and Porter have named A. C. (Oscar) Hoffman, former OPA food price chief, as liaison officer between the two agencies. Hoffman will also attempt to see to it that, when WFA suggests a price program to OPA, the majority of the food crowd

first agrees (something that hasn't always happened heretofore).

• **Arbiter of Policy**—As regards broad policy—where to slap on ceiling, where to subsidize—the Office of Economic Stabilization will be the court. Here some interesting bargaining between the WFA and OPA braintrusters (as opposed to administrators like Jones and Brown) will soon be going on.

For instance, the OPA planners are prepared to advance anew their thesis that further increases in farm prices won't increase production, and that a lid is the thing. On an index basis, the "real" wages of farm proprietors—net income deflated by prices paid for the maintenance of farm families—currently stand at 230 as against 100 in 1939. No other economic group has swept up that fast.

• **Passing the Buck**—Further, OPA strategists are willing to let the Dept. of Agriculture do all the subsidizing so long as OPA controls prices. This isn't altruism. OPA is sure that once the D. of A. has to plan and administer subsidies it will grow niggardly and fall back on farm ceilings instead. Reason: Wartime subsidies would put such high support prices under foods that it would be politically impossible to get them down after the war. Agriculture would be in the predicament of having to pay such big peacetime subsidies that it would be embarrassed to ask the taxpayer to foot the bill.

Meantime, Brown will have to whip his battered OPA into some sort of going concern. He needs a whole flock of new key executives (to replace the Henderson henchmen who quit or were fired, and the professors who now must go by law). He must figure out how to manage with \$155,000,000 instead of the \$177,000,000 he asked for. And he must coordinate headquarters work with that of the hundreds of field offices so that the brigade of volunteer workers doesn't get tired and quit.

• **Politics of Farm Prices**—But farm prices are still the major issue (both within and without the Administration). How the Administration can avoid putting a real brake on them is hard to see. Temporarily, at least, the high-price farm sympathizers in the Administration must be whipped into line. Later Congress may come to their rescue, but by that time, the New Deal will have made its play.

On the other hand, if the Administration gets fouled in its own differences, don't figure the New Deal has lost a major plank in its platform entirely. The Little Steel formula can still be wiped out and wages tied to the cost of living. That would be real dynamite, for Congress would immediately attempt to revise the parity formula. But at such a stage of price control, a plank would still be better than a hole where a plank should be.

There's Beef Now

But the harassing cattle mess hasn't been solved. Most feeders feel they face ruin, and herds may be depleted.

If buyers for the Quartermaster Corps think they have been having trouble locating beef—important as steaks and stew meat are to morale—they should have followed in the good housewife's footsteps.

Cattle raisers simply have been holding out for higher prices; meanwhile, packing houses haven't been able to pay even the going prices without losing at least a shirttail.

Best operators have been figuring on a loss of \$7 to \$10 on every animal dressing out to 500 lb. for sale as fresh meat; even the biggest have curtailed beef operations sharply, producing only enough to meet their government contracts and give dribs and drabs of meat to keep old customers on the hook.

Unseasonably generous rainfall has enabled farm and ranch raisers, who fatten range cattle, to hold back animals on pasture longer than usual. Prompting the holdback has been the hunch that the government would have to adjust prices upward.

• **Forced to Sell at Last**—But last week, it began to look as if Washington had outwaited the stockmen's hopes. Grass-fed animals from the drying southwestern plains began drifting into the Kansas City stockyards. By the start of this week, a really big run of cattle—18,000 at Chicago on Monday alone, the biggest July day in six years and the highest run since last November—hit all major markets between the Rockies and the Great Lakes.

A large share of these animals came from the feed lots, indicating the discouragement of feeders who found it almost impossible to buy corn and who also saw the chance of markets being swamped with grass-fed stock from the Southwest. Live-weight prices weren't enough to hold against such pressure—even with eastern buyers bidding against midwestern slaughterers—and quotations fell off fractionally.

• **Break for Administration**—If—as is entirely possible—grass-fed cattle should be forced on sale in such quantities that the packers could not process the stock, and if prices should consequently fall to \$11 or \$12 per hundredweight, Chicago basis, with feeders fully expecting to get \$15 after 150 days on full corn feed, it might relieve the Administration of one of 1943's nastiest little problems. Normal time for marketing range cattle to Corn Belt feeders starts about Aug. 15, at about the same time feeders begin laying up corn and fodder to use

in finishing this thin stuff for market.

But feed-lot operators have been pretty badly pinched and frightened; many of them have already quit. The Corn Belt Farm Dailies report that calls on 50 long-time cattlemen in one large feeding county of northern Illinois last week revealed that only one of these intends to follow his normal feeding program during the coming season.

• **Short End for Feeders**—Principal obstacle is that grass cattle, such as they normally buy, will dress out right now to the government grade of commercial, hence command prices from the slaughterers such as feeders cannot pay. Time-proved rule of the feeder is that, unless he can sell his corn-fed steers and heifers for 2½ a pound more than they cost him as thin stock, he loses money. It would take a downright glut of range cattle at midwestern stockyards to give him his probable price differential.

Washington price policies openly aim to encourage hog production while discouraging the carrying of beef to extreme finish. Corn price ceilings and relative beef and pork wholesale meat ceilings all point to this. Price relationships between cattle and hogs over 20 years average much different from the present artificial basis.

• **Prospect: Feast and Famine**—War Food Administrator Marvin Jones last

week invited a committee from the Livestock & Meat Council to Washington to talk over the beef situation after it had sent a red-hot telegram to the President, but trade skeptics expected nothing better than kind words.

Unless something happens to encourage feeders, a glut of grass-fed cattle is probable, as pastures play out, beyond the ability of the packing houses to handle with the labor now available. This would give beef eaters a world of inferior beef from August until perhaps early December, followed by a beef famine. Next year's beef famine would be even worse. After all, it takes 30 to 36 months to produce good beef—and five to seven years to rebuild cattle population once it is seriously impaired.

• **Which Way Out?**—The need for a program to encourage cattle feeding has had the War Meat Board stumped. The trade insists this Chicago board has no real authority and can only recommend to OPA—and then OPA tables its ideas. These trade sources see only three possible courses of improving the situation:

(1) Raise the retail price of beef.

(2) Subsidize prices.

(3) Raise the price of hides, tallow, and other byproducts (and this last is generally believed to be the only thing that is politically feasible).

• **Statistics of the Situation**—June slaughter of cattle under federal in-



FROM PACKER TO PUBLIC

Small packers have been unable to buy meat animals, particularly cattle, and sell to wholesalers at the ceiling prices imposed on them by the OPA. Now the idea of eliminating the wholesaler, in order to get a wider margin, is spreading like wildfire. A Connecticut packing house, Sosnowitz & Lottstein, has opened its own retail establishment in New York City (above). Two Philadelphia houses

have launched similar plans; Philadelphia Dressed Beef Co. opened six shops of its own, and Cross Bros. has arranged to sell direct to about 30 neighborhood butchers. These plans have two main drawbacks: (1) OPA has ruled them illegal because the packer sells above his ceilings, and (2) retailers and wholesalers who are bypassed aren't likely to resume business relations with the packer. But not all lawyers agree that OPA has a case—and the scheme sells meat!

spection was 708,000, the lowest since 1932, and a terrific comedown from the 1,039,000 a year ago. The first two weeks of July showed a 14% increase over the last full week of June at 27 leading markets which account for 72% of inspected beef production, but it was still far short of minimum needs for civilian comfort.

This shortage of beef came at a time when the country's cattle population was higher than ever before. Federal figures showed 78,000,000 cattle on farms and ranges Jan. 1, 1943. At predictable rates of slaughter, the number should rise to 82,000,000 by the start of next year.

Amid all this plenty, black markets are reported taking more cattle than ever from normal channels. Stockyard anecdotes are plentiful, many with names, dates, and places. Best guess is that this diversion cancels out the increased number of federally inspected plants.

Shipping Dividend

Success in Mediterranean, Atlantic, and the yards at home have meant more coffee, but it doesn't look too permanent.

Current easiness in the shipping situation is likely to be an off-again-on-again proposition. The chances are that, within a few months, priorities on tonnage for civilian imports will be as tight as ever.

• **Time Lag Is Felt**—Recent changes in the shipping picture came so swiftly that they surprised not only the Axis but also United Nations strategists. Military plans and war production schedules had to assume that the increase in available tonnage would be very gradual at best. No one dared count on the spectacular improvement of the last three months. Hence, when the battle against submarines swung our way, military needs didn't take up the slack immediately.

This helps explain why imports of semiluxuries—coffee, cocoa, soap fats—have taken a quick jump even though the over-all shipping situation remains one of the tightest spots in the war program. It also explains why this civilian's Indian summer is likely to be short. If there's going to be any permanent excess of tonnage over previous estimates, military strategists and procurement officers will rescale their plans to absorb it.

• **Fine—for the Moment**—For the time being, however, importers have almost as much tonnage at their disposal as they know how to use. Supplies of once-scarce commodities show the effects (page 80). Coffee stocks actually are above their prewar normal. Cocoa imports are running almost three times

the 1942 rate. The War Food Administration has decided that new shipments of fats definitely rule out soap rationing (page 28).

• **U-Boat War Nullified**—Several things lie behind the recent boost in available tonnage, but the main reason is the drop in sinkings. Instead of writing off about 1,000,000 tons a month—plus cargoes—the United Nations have been getting by with almost negligible losses for more than three months. Navy men keep their fingers crossed and refuse to make any predictions, but every good week is so much plush.

With the attrition factor slipping toward zero, the soaring output of American shipyards becomes a net addition instead of mere replacement. As a result, the War Shipping Administration is adding at least 1,500,000 dead-weight tons a month to its pool.

• **Half Year's Record**—In June, the country's shipyards delivered 1,676,500 tons (168 cargo vessels), bringing the total for the first half-year up to 8,818,622 tons (879 ships). Production schedules for the next six months are even higher. Entire 1942 construction was 8,089,742 tons.

Construction of new yards and ways is complete now. Shipbuilders expect to deliver 19,000,000 tons of cargo shipping this year, provided manpower and materials shortages don't gum the works. In addition, they are supposed to deliver an assortment of small craft, making the total around 20,400,000 tons, which is just about maximum capacity.

• **Mediterranean Shortcut**—Final victory in Tunisia also helped brighten the shipping picture, though not as much as amateur strategists had expected. Complete control of the Mediterranean might shorten supply routes so much that it would be the equivalent of adding 3,000,000 to 5,000,000 tons to the shipping pool.

However, the Mediterranean isn't completely clear. The Axis still controls the north shore as well as a collection of islands. Shipping officials shy away from estimates but say at a guess that cleaning off the south rim was worth 1,500,000 or 2,000,000 tons of extra shipping.

• **On the Dark Side**—Nobody can be sure yet that the additional tonnage is ours to keep. Sinkings might take a sudden jump, particularly with an invasion of Europe concentrating huge masses of shipping in one area. Construction of new ships may slump if shortages slow down the yards. A big air and submarine offensive in the Mediterranean might curtail Allied shipping once more.

Any such turn for the worse would put an abrupt stop to the flow of civilian imports. But even if there's no setback, the current easiness isn't due to last long. Wartime demands on shipping literally are unlimited.



Pipeline River Crossing

Explosives blasted channels last week for the Big Inch pipeline in beds of the Susquehanna (above) and Delaware rivers in Pennsylvania as the huge job nears completion. Installation of the missing Susquehanna link near Marietta is a final step in completing the 24-inch line as far as Phoenixville, which this week was expecting to begin receiving 300,000 bbl. of crude daily. However considerable work remains on lines feeding refineries on the East Coast.

• **More Space, More Cargo**—Top military officials haven't yet figured out all the implications of the extra shipping space now available. To a considerable extent, shipping has been a limiting factor on production schedules, particularly for bulky items—tanks, heavy artillery, and the like. If more ships are to be available, that will push the limit upward.

If the situation improves enough, an eventual cutback in ship construction will be in the cards. The War Shipping Administration, however, takes it as rule of thumb that shipping will be tight at least until the shooting stops, probably for some time after that. But production logic would dictate a revision any time shipping becomes so easy that workers and scarce materials would be more valuable in other lines. Any sort of formal cutback that might occur is likely to be months off.

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No More Trailers

Squeezed between NHA and WPB, industry folds up to scratch around for odd jobs for the rest of the war.

The trailer industry, which built more than 50,000 units last year, shut up shop this week and now is looking for odd jobs or anything the National Housing Agency might throw over the transom. So far, NHA has reluctantly bought 35,000 trailers and authorized no private purchases. The 105 manufacturers in business before the war have shrunk to less than 50 with about 4,800 employees, mostly elderly woodworkers. The biggest outfit is the Palace Corp. with 1,100 workers and a \$1,000,000 capitalization.

• **Homes for War Workers**—As late as the spring of 1942, trailers were for travel and summer vagabondage. Now they are homes for war workers who can't find houses or aren't willing or able to drive many miles to work. Trailers, like jeeps, are an answer to a war demand and don't pretend to be ideal.

NHA says trailers aren't houses because they are factory-built. NHA wants nothing more to do with them. It has told the industry it won't buy any more. WPB says trailers are houses because people live in them but won't release critical materials for them if NHA forbids private sales under Order L-205 and refuses to buy them itself.

• **Wants to Build Houses**—NHA wishes to build comfortable homes for workers rather than stop-gap housing, but it entirely rejects pleas, such as were made before the Lamham committee of Congress in June when R. J. Thomas, vice-president of C.I.O., brought in men who said they wanted trailers.

The trailer industry claims that under the Production Requirements Plan (now Controlled Materials Plan), it was the first to examine materials used in its product so as to eliminate critical materials. The industry substituted wood chassis for steel, took tires off and put them in a pool for workers who may have to move to another war plant, cut wiring to one-fourth, took canvas off the roof, and replaced plywood with substitutes.

• **Ghost Towns Predicted**—Ghost towns of NHA houses will be left in defense areas when war industry ends, they assert. Cities like Norfolk which are overcrowded with workers (population 400,000, compared to 182,000 in 1940) hope these "foreigners" will go home before another depression leaves them as an unbearable relief load—and so that transportation, health, recreation, and eating facilities will return to normal.

Depopulated towns in Mississippi

and North Dakota want their men and women to come home to pay taxes after the war, to utilize their school buildings, to run their stores and work their land and buy from their home-town merchants. Real estate agents who aren't in the boom areas see the mass migrations as the forerunner of collapse in home-site values that will ruin municipal financing.

• **Older Men Employed**—It takes about 1,000 man-hours to build a house but only 112 man-hours to make a trailer. It takes husky young men to climb scaffolds and erect a house, but the 4,800 men making trailers are older men working indoors and away from the critical labor areas, who can't stand the gaff of shipyards and plane plants. A man could buy a trailer for \$1,000 and move his home, family, and chattels away when peace ends his job in an alien city, but with the furniture he'll have to buy to outfit an NHA house he's stuck until he can find a new job and a moving van.

NHA believes that its temporary housing will be torn down after the war. But anyone who remembers the temporary office buildings erected in Washington in 1918 and that are still standing can speculate on what low-income Americans will say if such wholesale destruction is ordered.

• **Could Sell 12,000 Trailers**—The industry thinks it could sell 12,000 house trailers to war workers in the next three months if it were allowed to do so, and that such private sales would reduce costs of federal housing \$100,000,000. There are an estimated 200,000 trailer housing units in the U.S., of which 125,000 are in defense areas.

Flour Gets Richer

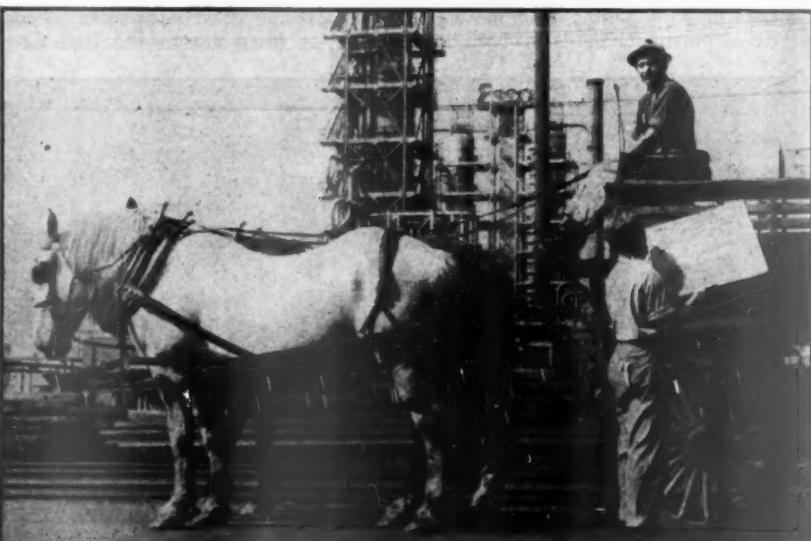
FDA has set new high standard for flour; now FDA is preparing, over bakers' protests, to make it mandatory.

The Food & Drug Administration has, after public hearings, set a new enrichment standard for flour (BW-May 29 '43, p40) which is based on a new policy. Heretofore, the general program has been to restore flour to its original vitamin and mineral content before the wheat has been milled; but the new and higher standards mean fortification of flour and certain selected foods to meet the national nutrition requirements of the government's plan for a well and properly fed population with the available foods.

• **How They Look**—The new standards adopted July 1 (effective Oct. 1) for minimum and maximum amounts of vitamins and minerals per pound of flour are:

	Minimum (Milli- grams)	Maximum (Milli- grams)
Thiamin	2.0	2.5
Riboflavin	1.2	1.5
Niacin or Niacin Amide	16.0	20.0
Iron	13.0	16.5
Calcium (optional)	500.0	625.0

Food Distribution Order No. 1 requires all white bread baked by commercial bakeries to be enriched. The common practice for enrichment is for bakers to use enriched flour, enriched



STANDARD'S HORSEPOWER

In these war days, the clatter of horses' hoofs are being heard in strange places—strangest, the Bayway (N. J.) refinery of Standard Oil. As

pinched for fuel as the average motorist, the company is experimenting with teams for deliveries within the grounds. And smug is the first team (above) to plod where horsepower had only been limited by octane rating.

yeast, or enrichment tablets added to the dough, or a combination of all three.

• **State Enrichment Laws**—A number of states—Louisiana, South Carolina, and Texas—now require all family flour sold in these states to be enriched and all bakers' flour to be enriched unless the baker furnishes the miller with a certificate proving that he is using some other means of enriching white bread. Georgia and Alabama have similar bills pending which will probably be enacted.

Food & Drug's promulgation of standards does not make enrichment compulsory. However, following a public hearing July 21 in Washington, the Food Distribution Administration will place the "enrichment must" on all flour sold for human consumption. The order for mandatory enrichment of all flour has been prepared, but as it now stands, the yeast and concentrate people will be left out of the enrichment field. Bakers, the majority of them now using tablets or yeast in preference to treated flour, contend that they should not be told how to enrich their bread as long as the desired standards are maintained.

• **Suppliers Will Squawk**—Bulk vitamin and concentrate companies such as Hoffmann-LaRoche, Merck, and Winthrop, and the yeast people such as Fleischmann, Anheuser-Busch, Red Star, and others are expected to present a strong case at the hearings to make it possible for bakers to continue to select their own method of enrichment. In all probability, effective date for compulsory enrichment of flour will be 120 days after the close of the public hearing in order to give mills and distributors an opportunity to dispose of present stocks.

• **Loss of Milk Offset**—The raising of the enrichment standards has been done

largely to offset the decline in the use of milk in bread, both commercial and home-baked (BW-Jun.26'43,p87). The inclusion of riboflavin, formerly optional with enrichment, also helps to offset the lack of milk in many bread doughs. The amended Food Distribution Order No. 1, effective July 1, has removed the minimum of 3% milk solids from the bakers' standards while raising the shortening maximum from 2% to 3% and the sugar maximum from 4% to 6%.

blood service, the remainder for war serums and vaccines.

The collection of blood presented no problem until the Red Cross was swamped with donors following Pearl Harbor. Main difficulty was delivering the blood to the laboratories at the proper temperatures and within the time limit.

• **Handling Time Is Short**—Blood is cooled from 98.6 F. to 41 in Red Cross refrigerators. Within 24 hours after it is taken, the liquid must be delivered to the medical laboratory with a temperature change of not more than two degrees or it deteriorates. Since the original cooling process in the Red Cross refrigerators requires eight hours, only 16 hours leeway is left for transit to the laboratory.

Once in the hands of the chemists, the blood plasma (liquid) is separated from its red and white cells and is frozen, dried, bottled. Thereafter, it is immune to temperature changes, needs only the addition of sterile water to convert it to liquid blood.

Oysters and shrimps were large items in the peacetime use of Church containers, followed by fruits, vegetables, ice cream, poultry, serums, and vaccines. Dry ice or water ice were the refrigerants.

• **Peacetime Routine**—Maj. Elihu Church, the inventor, buys the boxes (from General Electric) and furnishes them free to Railway Express. The peacetime shipper supplied the refrigerants, paid the usual express charges for the weight of products (not including the container), and was assessed a service charge out of which Maj. Church got his compensation.

When Railway Express was approached concerning the Red Cross problem, it assigned Church containers on an experimental basis. Tests showed that, between the Red Cross refrigerator and the laboratory, the temperature changed less than 1%. A large portion of the containers was immediately shifted to the service. The traffic is two-way since the bottles, when emptied of blood, are returned in the container filled with blood-coagulant for Red Cross use. (Each Church container carries 80 of the pint blood bottles.)

The Red Cross is charged for using Church containers on the same basis as a commercial shipper. It supplies the refrigerant, pays the regular tariff for the blood plus the service charge for the container. The service charge is \$1 per container for any distance within 48 hours of the originating point. Since the Red Cross uses the homeward movement for bringing back bottles and blood coagulants, it pays a \$3 service charge for this trip also, but Railway Express makes a special low tariff rate on the returns.

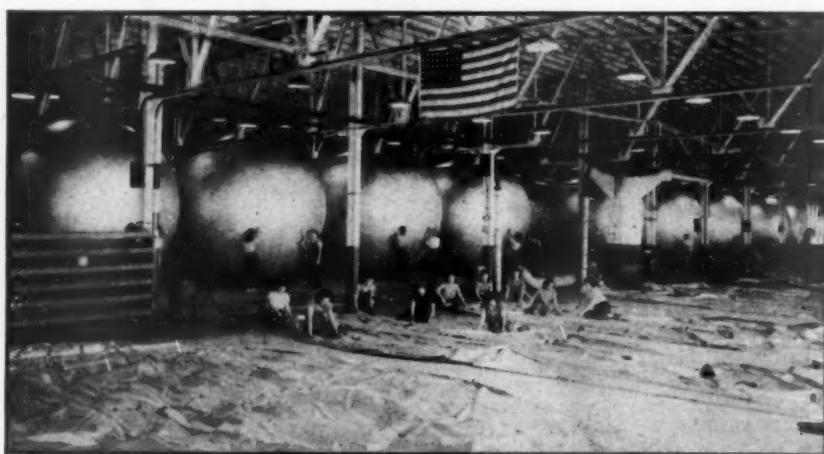
• **Record of Growth**—During 1941, there were 1,003 shipments of blood

Blood on the Move

From time of donation to arrival in laboratory, only 24 hours may elapse, and Church containers are the answer.

In the chorus of praise for the Red Cross blood-collection program which has saved the lives of so many fighting men, little has been said about its primary transportation problem. Blood taken from the veins of a New Yorker is available to a wounded Marine in the Solomons months later only because the delicate job of shipping the liquid from the original collection point to the laboratory was perfected soon after Pearl Harbor.

• **Containers Go to War**—Shipments are handled by the Railway Express Agency in Church containers, refrigerated shipping cabinets which were converted from commercial use to war duties (BW-Dec.27'42,p30). Formerly Church containers served for shipping sea food and other perishables. Today 97% of them are in the Red Cross



SHIP PROTECTORS

To workers at Akron's Goodrich rubber plant, the "watermelon patch" has no connection with farming. It's the production line where girl workers assemble a new type of convoy bal-

loon by hand tailoring methods. In service, the balloons will be moored over ships at sea to hamper enemy dive bombers. The "watermelons" measure 33 feet long, 13 feet in diameter, and have a gas capacity of about 3,000 cubic feet.



Hell no. I don't scare easy.

But I'm no fool, either.

I know where I'm going . . . and it's not to a church social.

But I'm an American, and all my buddies are Americans.

We've got a messy job on our hands, and we're doing it. Because we know *it's got to be done*.

You folks back home have a job, too.

Like buying War Bonds. And I don't mean War Bonds you can afford, either. That's just a good investment.

I mean War Bonds you *can't* afford.

War Bonds that mean being inconvenienced . . . one-thousandth as much as those guys who haven't had their wet, stinking clothes off in three weeks of crawling through the jungle, killing Japs.

War Bonds that mean being uncomfortable . . . one-thousandth as much as those kids lying out in the desert, waiting for the medical boys to give them a hypodermic.

So forget that 10% stuff. Buy War Bonds until you can look at the guys who come back with one arm or one leg or no eyes, without a guilty feeling in your heart.

This advertisement prepared and space purchased by the Felt & Tarrant Manufacturing Company, Chicago, makers of Comptometer Adding-Calculating Machines.

SCARED, KID?

F is for ... FELT ... FIGHTING ... FUNCTIONS

FELT... A fabric which is built up by the interlocking of woolen or woolen and other fibres by mechanical work, chemical action, moisture and heat... each process scientifically controlled.

FIGHTING... Today FELT is in action on every front... on land, on sea and in the air... in production, in agriculture... and in replacement.

FUNCTIONS... From Acoustics to X-rays, the 1941 count showed over 4,135 uses for our FELTS. Ranging in thickness from 1/32" to 3", and in weight from 3 oz. to 65 lbs. per sq. yd., American FELTS meet Army, Navy, Air Corps, S.A.E., Felt Assn. and our own specifications. Almost daily the number of vital parts made of FELT increases.

FUTURE... Technological advances in formulae, processing, treating, and fabrication with other materials have tremendously extended applications of FELT, and point to even wider uses in post-war industry.

FLYING FORTRESSES... Hidden in every flying ship are FELT parts which function unseen to guard crew, instruments, engines against FATIGUE. Many better known structural materials would soon wear out were they not lined, lubricated or protected by durable, versatile FELT.

FREE FACTS... FELT is improving products, facilitating manufacturing operations and replacing more critical materials. Reasonably prompt deliveries can be made. We will help in the solution of any problem in the use or application of FELT. Samples sent gladly.

Write for "The Story of FELT"

American Felt Company



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PRODUCERS OF FINEST QUALITY PARTS FOR OIL RETAINERS, WICKS, GREASE RETAINERS, DUST EXCLUDERS, GASKETS, PACKING FELTS, VIBRATION ISOLATING FELTS AND INSULATING FELTS



PLAQUE TO A DOCTOR

The Paper Cup & Container Institute, Inc., led the applause last week when a plaque, commemorating the origin of the industry, was unveiled in Topeka. It was just 35 years ago that Dr. Samuel J. Crumbine (right), then secretary of Kansas' state board of health, snatched a contaminated pub-

lic drinking cup from the lips of an unnamed urchin. The incident launched Dr. Crumbine's health drive, resulting in the outlawing of the common drinking cup, and the birth of the paper cup. The plaque, which was designed by Kansas-born Olive Kooken (left), has been admitted to the Kansas Hall of Fame by Governor Andrew Schoeppl.

and bottles in this service. In 1942, there were 20,632 shipments, and during the year, the blood and bottle traffic grew to 83% of the total. By the end of March this year, blood and bottle shipments had totaled 12,724 and were still rising sharply.

The continuing increase in blood shipments has been the result of additions to the Church containers in service. Last spring, there were 250 in use. By the middle of next month, the number will be 700. Nobody objects to the AA-1 priority on materials (mostly steel) that go into their manufacture.

CARS GO WEST

Last week came two clear testimonials that used car dealers have not been hammering away in vain at Easterners who keep their cars in dead storage or jacked up in the garage instead of putting them on the market for transportation-starved midwestern war workers:

(1) Authorities expressed concern over depleted transportation reserves in New York State since cars might be critically needed in case air raids necessitated evacuation. Last month, according to the New York State Transportation Committee, 8,000 private automobiles were shipped out of the state, just twice the number shipped in May.

(2) Universal C.I.T. Credit Corp., first auto finance company to come forth with a scheme by which owners would turn in old cars for an allowance on a postwar model, reported a 50% increase in turnins since the plan became effective (BW-Jun.5 '43, p96). The increase applied only to dealers in the New York metropolitan area, however, where turnins would logically be high since it is estimated that 75% of car owners in that area have A gasoline ration cards.

STEAMSHIP LINES REVERT

Any move made by the government which might indicate its policy in disposing of war properties is sure to be watched with a keen eye. That's why many will watch restoration of the American President Lines (formerly Dollar Lines) to private ownership.

Last week the U. S. Maritime Commission announced it would receive purchase proposals up to Sept. 15. Although not unexpected, the commission's announcement caused a major stir on the West Coast. Talk about prospective buyers included all the nation's larger steamship companies and, inevitably, Henry J. Kaiser who already owns one steamship line (the Permanent Steamship Co.).

Lines rumored at one time or another

PRIVATE ENTERPRISE—(continued)

New York's First Bank
Established 1784

Personal Trusts
Since 1830



Henry Ford vs. Karl Marx

"There is an old Marxian theory that no man can be enriched without the impoverishment of others. But the vast enrichment of the Ford family has not brought poverty to others. Rather the pioneering in the mass production of motor vehicles has created opportunities for millions in the stimulation of the oil industry, the development of a nation-wide highway system, the rebuilding of communities.

"And the nation will continue to benefit by what the Ford family has built.

"The saga of the private enterprise of Henry Ford and his family is one that could not have been written in any other country, or under any other economic system... The principal kind of security under which the Ford enterprise flourished was the 'security of opportunity.'"

*From an editorial in tribute to Mr. Edsel Ford,
New York World-Telegram*

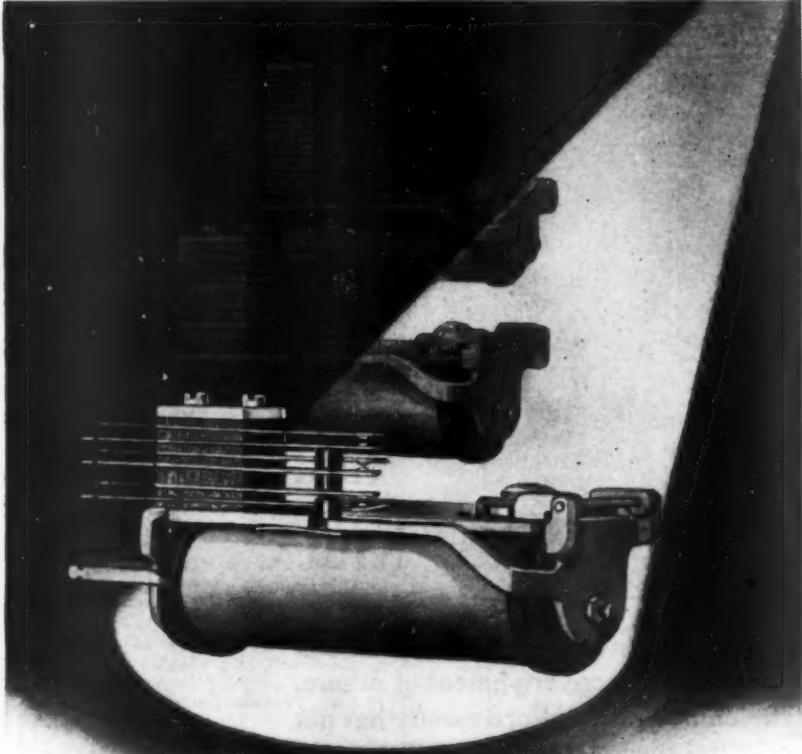
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Commercial Banking

Executor and Trustee



Changeless . . . yet ever-changing

The principle of "custom-building" Clare Relays means a constant change in design to produce the exact relay that meets exacting specifications. That is the difference between Clare Relays and the ordinary telephone-type relays which do not lend themselves as well to the service demanded by modern industrial designing.

Yet there is one predominant feature always present among the constantly changing characteristics of Clare "Custom-Built" Relays. That is the insistence on the finest materials and workmanship, precise designing and construction. And it is that one constant, added to the flexibility of Clare "Custom-Built" Relays, that has made Clare the wanted name on relays specified by today's designers of the products of tomorrow.

Clare Type C d.c. Relay, illustrated here, is an example of the "custom-building" principle of design. Its spring assembly may embody any of five combinations or arrangements thereof. It may be equipped with as many as 20 springs per pile-up with two pile-ups per relay. It can be provided with twelve different standard or special types and sizes of contacts. It can be furnished with plug mounting for easy replacement.

Let us know your relay requirements and our engineers will "custom-build" a relay to do the job. Ask for the Clare catalog and data book. C. P. Clare & Co., 4719 Sunnyside Avenue, Chicago. Clare engineers in all principal cities. Cable address: CLARELAY



"Custom-Built" Multiple Contact Relays for Electrical, Electronic and Industrial Use

CLARE RELAYS

as interested in acquiring A.P.L. include Matson Navigation Co., United States Lines, Moore-McCormack Steamship Co., American Export Lines, and American-Hawaiian Steamship Co. Of these only Matson and American-Hawaiian are primarily West Coast lines and only Matson is in the transpacific trade.

The commission acquired the American President Lines in a 1938 reorganization (BW—Nov. 5'38, p40). It has 80% stock control.

Pattern in Decline

Machine tools give WPB a laboratory experiment in what to do when a war industry hits its peak and starts to slide.

Machine tool production is providing WPB with a laboratory experiment in what to do when a particular type of production begins to decline in wartime (BW—Jul. 10'43, p17). It is generally appreciated that the war isn't going to end for all industry at the same time; rather, one industry after another will find that its big rush is over and its operations are starting to taper.

• December Peak—Construction was the first to hit the peak, and machine tools were only a few months behind. Backlogs of the tool builders began to decline last September, and throughout this year, actual deliveries have been dropping from a December peak of better than \$130,000,000; they may go as low as \$30,000,000 to \$40,000,000 by the end of the year.

Difficulty for WPB is the uncertainty of the last figure. If officials could be sure that the slackening will continue, they could breathe a sigh of relief and figure it was one problem less, but they know that there will be a certain residual demand for replacement machines and for retooling of war plants as models change. What is more serious, any major shift in the technology of war could immediately reimpose a rush demand for large quantities of tools.

• On the Fence—Thus, WPB doesn't want to let the facilities—and more important the manpower—of the machine tool producers become too hopelessly dissipated. At the same time, officials don't want to waste facilities and manpower on production of tools that will never be needed.

The delicate decisions necessitated by this situation fall both on the tools division of WPB and on Beverley Murphy's Industrial Facilities Committee, which is charged with deciding what new manufacturing facilities will be permitted. Working with Murphy on the problem is George Johnson, who quit last month as chief of the tools division.

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go on a part-time basis as consultant
to the facilities committee.

Three Controls—WPB has three controls over the level of operation of the machine tool industry: (1) The facilities committee decides what new factories will be permitted, holding this figure as low as possible. (2) Some companies making highly critical types of tools will not be allowed to hunt for new business in other lines of manufacturing. The machine tools division long ago issued standing instructions to tool builders not to accept contracts for anything but tools. Since the turn of the year, one firm after another has been released from this injunction until a substantial number now are free to scramble for business. (3) It is possible to squeeze own still further on tool production by insisting that prospective buyers of new tools buy used tools which are not being fully utilized.

Warehouse Scheme—Tying these controls together is the so-called "warehouse" scheme now being studied by WPB—which might or might not involve actual physical warehousing of machine tools. This is essentially a scheme to redistribute existing tools which are not being fully used (many of which have been made idle by cutbacks in munitions contracts) through government



ROVING RIVET GIRLS

Quick, efficient delivery of cellophane-wrapped "ice-box" aluminum rivets to production lines is saving Vultee Aircraft's San Diego plants about \$1,000,000 annually, company spokesmen estimate. Before the introduction of packages, hundreds of riveters made long floor trips to central refrigerator stations for pans of cold rivets, returning every half-hour when the materials warmed up, and became too brittle for the guns. And those that didn't make such frequent

trips piled up further time losses down the line where cracked rivets were extracted by hand drilling. Automatic machines now weigh rivets, seal them in bags to be placed in a central freezer. They are then delivered to departmental stations (above left) by "Good Humor" girls riding tricycle-refrigerators (above right) packed with dry ice. Workers now walk an average of 40 ft. each for their rivets, and if they keep them in the cellophane bags as they hammer, the pins stay cold, soft, and pliable for upward of 90 minutes.

purchase and resale. It would very likely involve creation of a Reconstruction Finance Corp. subsidiary to take the losses involved in rebuilding tools for new uses.

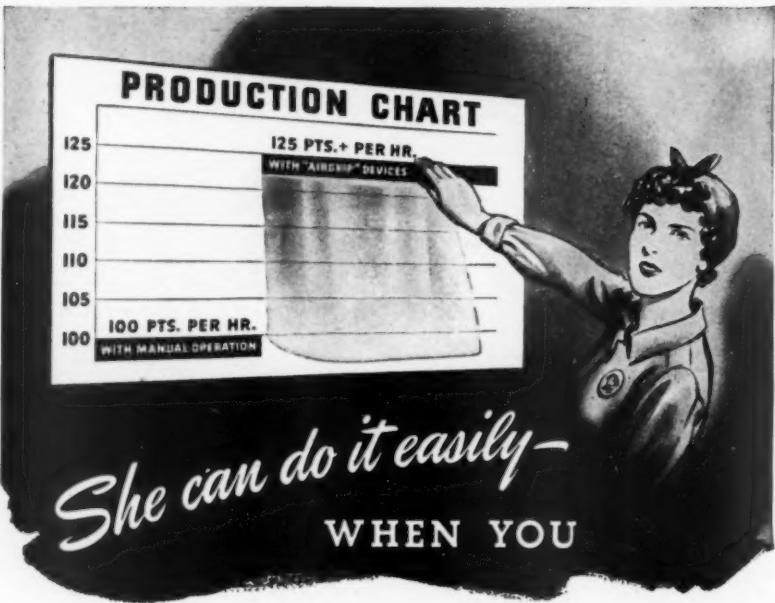
It's still an open question whether to go out and buy semi-idle tools broadside and warehouse them for future use, or to leave most of the tools in their present hands (maintaining a "paper warehouse" in the form of an inventory of available tools) and buy only as the tools are needed. A paper warehouse has the advantage of minimizing the red tape of buying tools and avoids the morale hazard of visible stacks of what most people will still consider scarce tools. On the other hand, tools tend to disappear from paper warehouses, aren't there when you want them.

• Concealed Asset—Essentially, the decision on paper vs. physical warehousing is a decision on the level of operation of the machine tool industry. If the idle tools are brought together where they can be seen, they'll be used as a substitute for new tools. On the other hand, some WPB officials argue it's better to leave the tools where they are as a sort of concealed asset, available when an emergency need arises, and meanwhile let new tool production stay up to the level of demand.

So far, no final decision has been reached. WPB is planning to try a few experimental warehouses to see what sort of difficulties are encountered. The finances of the transaction will be complicated. Most of the tools to be bought are now owned by the Defense Plant Corp., Army Ordnance, or the Navy, and are thus enmeshed in the red tape surrounding transfers of government property.

• Bail-Out Operation—Eventually, the scheme is pretty certain to move toward at least a degree of physical warehousing, because it involves some purchases of new tools. The present instance is the need to take over tools for which orders have been canceled as a result of production cutbacks while they were in process of manufacture. This is primarily a bail-out operation, since these are mostly types of tools which are now relatively plentiful and never likely to become critical.

A more significant situation will arise later in the year when demand for critical types of tools will drop substantially below capacity. If it is desired to keep the builders of these tools in business as insurance against future emergencies—and it doubtless will be—then it will be necessary to buy and stockpile at least a portion of their output.



Install "Airgrip" Holding Devices



Maybe you have been thinking in terms of muscle when faced by the manpower shortage. Well, you can forget it, because when you install "Airgrip" Holding Devices any average American girl can *step up your output 25%, or more—and keep up that pace all day long without undue fatigue.*

Take the time now to investigate the advantages of "Airgrip" Holding Devices—more production, lower cost, reduced spoilage, minimum operator fatigue—and far less worry about the manpower shortage.

"Airgrip" Devices are available now—they are easy to install—and, "Airgrip" engineers are prepared to help you on any problems where air can be used for fixtures or chucking.

WRITE FOR BULLETIN.

Anker-Holth Mfg. Co.

"AIRGRIP" CHUCK DIVISION
332 S. MICHIGAN AVE. • CHICAGO, ILL.

More Soap Oils

Larger imports and rise in collection of household fats apparently will obviate need for long-expected rationing.

Soap rationing is now further away than it has been for months. In fact government officials who began viewing soap rationing as inevitable with the outbreak of the war are now willing to admit that the U. S. might squeeze through with nothing more than light distribution and conservation controls.

- **Order Sidetracked**—Announcement of soap rationing was expected momentarily around the middle of May. Plans had been made, but officials blamed the failure to make them public on the fact that OPA's soap rationing unit was understaffed. Now there is a strong possibility that the soap order will never be issued.

Major reason for the new optimism on the soap outlook is the recent improvement in the shipping situation and the development of new sources of the fats and oils for soap making (page 105). Other reasons include: transfer of fat and oils control from WPB's Chemical Division to a distribution and control minded War Food Administration; an upturn in housewife salvage figures; and government plans to push the use of soap extenders.

- **More Lauric Acid Oils**—The picture looks rosy enough for the War Food Administration to release quantities of high lauric acid content oils to industrial users. These are the oils which give U. S. soaps the characteristics that consumers like.

Shortly after the war broke out, WPB froze large inventories of high lauric acid content oils and placed sharp restrictions on their use. Recently the War Food Administration, which took over these stocks, permitted those who sold the oils to the government originally to repurchase sizable quantities. Even more recently, any industrial user was made eligible to buy some of these oils primarily coconut and babassu, regardless of whether he had originally sold to the government.

- **Copra Supply Larger**—Food Administration officials explain that recent imports of copra enabled the government to liberalize the high lauric acid content oils control. It is known that shipments are being received from the South Seas and other areas, and it is estimated that the nation will not have to dig very far into its raw materials stockpile to meet third quarter soap requirements (Large holes in the stockpile were made previously).

Starting with a three-million-pound collection in August, the fats and oil



Invasion Base... 58 days from the Drawing Board!

OUT THERE... on all our stepping-stones to Victory... American boys—thousands upon thousands of them... expecting supplies in unbroken flow... ammunition, food, equipment.

And — getting them!

Ships along with cargoes... weapons... reinforcements... enough and to spare... and right on schedule.

Only a few days previous the ships were in the blueprint stage. That's how far our shipbuilding has progressed!

It took 243 days to build the first Liberty freighter... Today a shipyard's average time—from keel laying to readiness for dock-side loading—is 32 days. Production records are set... then smashed... and smashed again. Fighting manpower is being matched by

fighting transport power... ocean supply lines kept unbroken... the war carried to the enemy.

In our time a miracle has been wrought... a seven-ocean Navy is on the way... the greatest merchant marine in history... the most effective mobilization of an industry! To whom is the credit due? To whom do we owe the security of our troops overseas?

Not to any one person or group, but to many.

The shipyards, old and new, expanding, speeding up, multiplying output... the allied industries producing steel, engines, and all the intricate gear of a ship. The experts of the U. S. Navy Department and our Maritime Commission who created our powerful naval

and merchant fleets... the civilian marine engineers and naval architects... the steamship companies.

Management... conceiving, organizing, coordinating... refusing to accept the word, "impossible"

Labor... men and women in untold thousands... loyal... hard-working... backing up our fighters with grim determination, with sweat, with native ingenuity. All of that lies behind the safe arrival of our convoy... of our epic sea victories... of our invasions and re-conquests.

We of General Cable know the vast job the American shipbuilding industry is doing. We are proud to pay it tribute. For without ships, America's hopes for a free world would be empty dreams.

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These clients are old established firms looking for new lines of manufacturing and new products for volume sales and wide distribution including foreign markets. All suggestions will receive careful investigation and confidential treatment. The general scope of the manufacturing lines or products should be stated in your reply.

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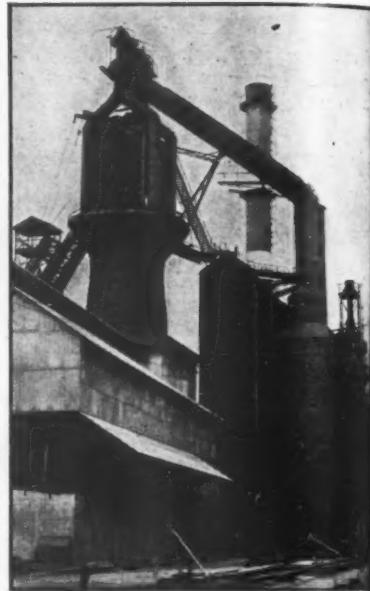
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Founded in 1850 Hartford, Connecticut



AT WORK AGAIN

Dismantled and moved from Joliet, Ill., by the Defense Plant Corp., a long unused blast furnace is producing again (right) at the Ironton plant of Columbia Steel Co., near Provo, Utah. Supplying Columbia's integrated steel mill at Geneva, Utah (BW—Nov. 21 '42, p52), the reconditioned furnace and cast house (above) will turn out 900 tons a day when operating at full capacity—increasing the plant's output by 50%. Meanwhile final touches are being put on the first of three new 1,200-ton blast furnaces at Geneva, with operation anticipated next month. By year's end the entire \$150,000,000 plant will be producing, officials estimate.



salvage campaign resulted in a record just short of eight million pounds in May of this year. While this was only 47.8% of the national quota planned by WPB, the 600,000 pound rise in May over April was considered significant because it was achieved in spite of the new rationing of meats and of fats and oils.

Originally it was feared that meat and oil rationing would cut down the salvage returns because the housewife would have less fat to begin with and would use what she formerly threw away.

• **Fight Over Extenders**—A possible government order requiring the use of extenders in soaps—resins, chemical detergents, and water softeners—has caused a heated intra-industry debate. Several major plants already have started using extenders; at least one other is vigorously opposed to the plan. Government men say that those who have good stocks of high-quality oils don't mind the use of extenders so much, but those whose stocks are low are against the idea.

Can't Stop U. S.

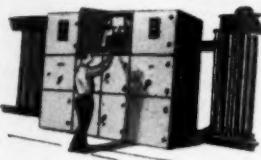
City ordinances governing
building are not applicable to
federal war housing projects
District Court rules.

War housing projects of the federal government don't have to conform to local building ordinances; contractors can erect whatever type of structures called for in the plans without worrying about city inspectors stepping in and stopping the job.

• **Lanham Act Cited**—This was decided last week in U. S. District Court in Philadelphia where Judge J. Cullen Ganey ruled, in supporting a government bill of equity, that the City of Chester had no right to interfere with the construction of a temporary family project to house Negroes employed in nearby war plants. Basis of the decision was the Lanham Ac-

"STRETCH IT"

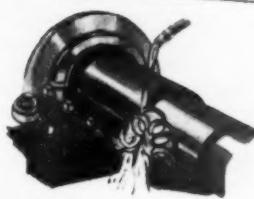
HERE'S THE KIND OF CONSERVATION HELP
YOU CAN COUNT ON FROM G.E.



SAVINGS IN COPPER totalled 145 tons for a new war plant that installed G-E load-center power distribution. By using standard G-E switchgear and load-center unit substations, you get a better power system in less time—and save tons of copper which otherwise would be needed to distribute the low-voltage current.



PLASTIC PARTS, made to new close tolerances, are saving tons of critical metals—for example, in a trench-mortar fuse which must pass 75 gaging operations. In developing new molding techniques to make this fuse, formerly made of aluminum, G-E engineers have provided another means of conserving scarce materials.



REFRIGERATION of food is undoubtedly a No. 1 conservation job. But G-E industrial refrigerating equipment is also to be found cooling finishing rolls to prevent waste of rubber; cooling welding tips to prolong their life; dehumidifying air to prevent rust and spoilage; cooling cutting oils to prolong tool life.



ELECTRONIC WATCHMEN in a chemical plant now catch impurities before they contaminate the final product, avoiding waste and boosting output. G-E electric eyes keep constant watch of material moving through pipe lines. When dark, illegitimate material appears, a warning sounds, permitting the operator to by-pass it.



RESISTANCE WELDING of gas-tight seams, using G-E electronic control, permits the use of steel for "droppable" airplane gasoline tanks—releasing aluminum urgently needed for other plane parts. The new welding method also saves the welding rod formerly used in torch welding, and results in an over-all cost reduction of 83 per cent.



POWER CONVERSION requirements of many war plants have been met electronically by the use of G-E mercury-arc rectifiers instead of rotating equipment. This has avoided making demands upon manufacturing facilities that are loaded with orders for motors and generators needed on ships, planes, tanks, and other combat equipment.

These are typical examples of how G-E products and engineering are helping industry to widen the war-usefulness of critical materials. If you are faced with new shortages, if WPB has said "Stretch it!" similar conservation measures may be your answer. In any event, it will pay you to discuss the possibilities with one of our engineers. Call on him through your local G-E office. *General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC

YOU ARE INVITED TO LISTEN TO "THE WORLD TODAY" 6:45 P.M. EWT, MONDAY THROUGH SATURDAY, ON CBS; AND TO THE "HOUR OF CHARM" 10 P.M. EWT, SUNDAYS, ON NBC.

providing for the creation of the Federal Housing Administration—which provides that land acquired by the government is not subject to state or municipal laws, ordinances, or regulations.

Work on the twelve-acre project started May 18 but was halted the following day when Renato DeVito, superintendent for Domenico LaCascio, Pleasantville (N. Y.) builder, was arrested by a Chester building inspector on a charge of not having obtained a permit. On May 24, the government filed a test suit naming the inspector, the magistrate who issued the warrant, and Chester officials as defendants.

• **Meet FHA Requirements**—Chester property owners, 150 strong, charged that the proposed one-story houses were "fire traps and unsanitary." The government countered that the homes were being built to specifications approved by the FHA and were both safe and sanitary.

Concrete Afloat

This war's first three self-propelled concrete ships ready for launching. Barge is getting workout. Program speeded.

The first three self-propelled concrete cargo ships built under the U. S. Maritime Commission's much-debated concrete ship program were scheduled to take to the water at Tampa, Fla., on Thursday of this week. Five concrete tanker barges—with ship-shape hulls but without power—have already been delivered. One of these has been towed to the Southwest Pacific and the commission says that reports on its performance there as a floating oil storage depot are

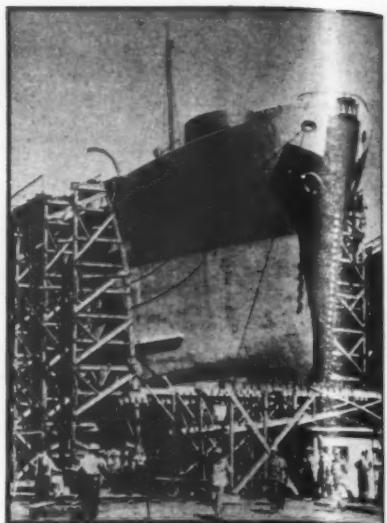
satisfactory. The whole concrete ship and barge program is declared to be slowly gaining momentum, though skepticism continues strong, and few of even the ardent proponents of the concrete sea-carrier view it as a useful commercial vessel in competitive times.

• **Mostly Barges**—This program has already placed under contract 65 reinforced concrete tanker barges, each intended to carry 50,000 bbl. (2,100,000 gal.) of medium-density fuel oil; 26 dry-cargo barges; 24 self-propelled concrete freighters for U. S.-Latin America commerce, largely as bauxite carriers to serve the aluminum program. The tankers and dry cargo ships (with or without power) are all about the same size—350 ft. to 360 ft. long at the water line, 50 ft. to 60 ft. in beam, and 35 ft. to 40 ft. deep. The big fellows' length and carrying capacity of 5,500 long tons compares with the 416-ft. length and 7,500-ton capacity of the standard Liberty ships.

Since all but the 24 freighters must be towed, there is also a program for about 50 tugs, some of the most powerful ever built.

Bottom, side-shell, bulkheads, and decks of the concrete ships are 4 in. to 6 in. thick and are reinforced heavily with steel bars. Actually, they use half to two-thirds of the weight of steel required for a steel ship of comparable carrying capacity, but only a minor portion of this is in the form of plates, which form the real bottleneck in steel production.

• **Who Is Building Them**—A number of yards are included in the concrete ship program. Concrete Ship Constructors, National City, Calif., has completed in building basins five barges on its contract for more than 20 vessels. MacEvoy Shipbuilding has ended launched one barge of a contract of 23



All 24 of the self-propelled concrete vessels ordered by the U. S. Maritime Commission from McCloskey & Co. are being built at Tampa, Fla.

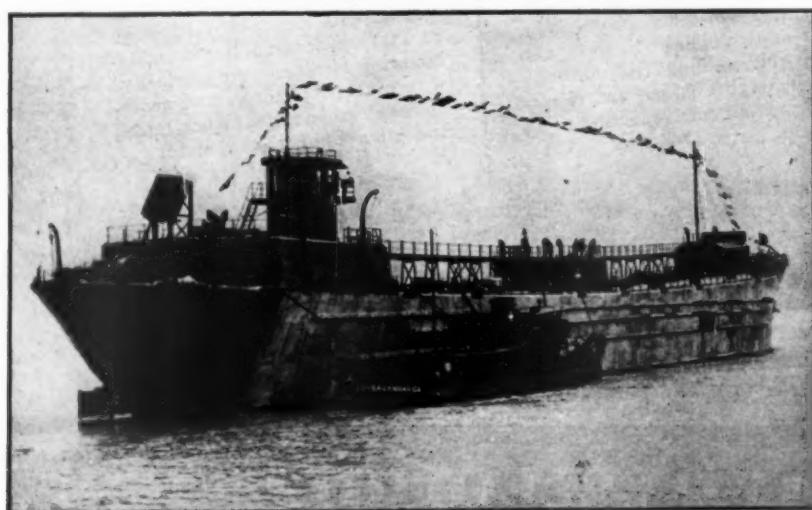
and has others nearly ready to go into the water at Savannah. San Jacinto Shipbuilding Co., at Port Neches, Tex., has four well on the way to completion on side-launching ways. Barrett & Hilp has launched the first of a contract of 24 dry cargo ships built in basins on San Francisco Bay.

At Tampa, Fla., McCloskey & Co. has under contract the only powered concrete ships ordered by the Maritime Commission—24 of them, being built three at a time in each of three 1,200-ft. long basins constructed with the form for the bottom of the ship integral with the basin floor. Ships are floated off the forms and taken into a nearby graving dock for examination and for any work that it is necessary to do on the bottom.

Feature of all the concrete vessels is the use of special light-weight aggregates that reduce the weight of the hulls and increase carrying capacity. Weight comparisons reported are: 108 lb. to 111 lb. per cubic foot for the concrete used, against about 145 lb. for "stone" concrete; bottoms and sides of the ships, 35 lb. to 45 lb. per square foot, against 25.5 lb. per square foot for the usual 3-in.-thick steel plate that is used on freighters.

• **New Program**—A new Maritime Commission program shown to Congress (BW-Mar. 6 '43, p28) included 115 powered concrete ships and 77 barges. None of the powered ships have been contracted pending observation of the 24 building in Tampa. The 77 barges, all similar to those now under construction, will be contracted as rapidly as the builders of these barges are ready to order materials.

Private interests have developed plans



Under contract for 23 concrete tanker barges, Savannah's MacEvoy Shipbuilding has launched No. 1, has several more almost ready. About 350 feet long, the barges will have an oil capacity of 2,100,000 gal. each.



"Again destruction strikes us out of nowhere!"

The modern miracle of RADAR has sought out the enemy far beyond the range of human eye and ear—and destroyed him. RADAR means "radio detection and ranging" and is a department of electronics. By radio waves of ultra high frequency, RADAR locates targets at astonishing distances. This "secret weapon" is unaffected by fog, storm, or darkness.

Even before Pearl Harbor, Greer had a hand in plans for producing RADAR for U. S. fighting ships. It will be no surprise in the bakery and confectionery fields—where Greer precision machines have long

been famous—to learn that Greer is performing notable service in supplying such precision equipment as RADAR to the Navy now.

Out of the sweat and pressure of war production, Greer has learned much. Through this new knowledge—including applications of electronics—we hope to give you better post-war equipment. We believe our engineering ability and experience can be of unusual value to you in planning your peacetime operations. Let us hear from you.

J. W. Greer Co., 119 Windsor St., Cambridge, Mass.

MAKERS OF FAMOUS

GREER

MULTI-TIER CONVEYORS



SUBMARINE BELOW— FLASHES THE CIVIL AIR PATROL PLANE

The indistinct shadow beneath the water means little to the untrained eye—but, the C. A. P. Pilot and his Observer instantly recognize the outline of a lurking enemy submarine preparing for destruction and death. The Pilot's depth charge is soon on its way—the location radioed to the Army, Navy and Coast Guard. The destruction of the raider is imminent.

Former commercial and pleasure fliers who volunteered their services and their airplanes, the men of the Civil Air Patrol have been risking their lives daily since Pearl Harbor in the grim, relentless search for Axis submarines off our shores. Many ships have been saved from torpedoing—many already-shipwrecked seamen rescued—thanks to their ceaseless patrol. To them belongs no small share of the credit for driving the enemy undersea raiders away from our coasts.

We salute them for the courage, ability and self-sacrifice with which they do their job—and we are proud that many of the planes in which they perform this service to the Nation are Jacobs-powered.

JACOBS AIRCRAFT
Engines
POTTS TOWN • PENNSYLVANIA • U.S.A.

Paving the Way

Argentina's government attempts to prove big rise in business profits as prelude to boost in income taxes.

BUENOS AIRES—Business men are oiling up their shooting irons, and the target will be the Direction General of Income Tax. The reason is that a boost in income taxes—personal and business—is in the wind and the statistics to justify the rise have just been published.

• **Figures on Profits**—From a survey of Argentine business, the Tax Dept. concludes in its annual report that industry's return on invested capital and reserves was not less than 22% in 1942, that commercial companies realized profits of 17%, for a combined average profit for trade and industry of 19%. The official table of profit trends is:

Year	Per Cent Return on Capital and Reserves	
	Industry	Commerce
1937	13.05	10.59
1941	17.06	13.78
1942	22.0	17.0

Those who think the trend has not been so marked and fear that an excuse for higher taxes is being sought charge that the sample is small and was reduced this year, that definition of assets is wrong. They set out to prove their point from statistics similarly originating with the government.

• **Sample is Reduced**—Until 1941 the Tax Dept. based its study on the returns of 373 commercial firms and 227 industrial companies out of a total of 2,004 commercial houses and 1,019 industrial enterprises. In 1942 the sample was reduced to 250 in both categories. Critics also charge that banking credits and debentures should be included with share capital and reserves before figuring profits returns.

Taking data from the Finance Ministry and the Tax Dept., dissenters present a picture distorted on the other extreme. The number of industrial companies is shown to have risen from 661 in 1937 to 1,019 in 1941 (a 54.4% rise) while over-all profits rose 63.8% from 204,800,000 pesos to 335,450,000 pesos—an average rise per firm of only 6.1%. A similar tabulation for commercial firms shows a 34.3% increase in number (from 1,492 in 1937 to 2,004 in 1941) and a 27.2% rise in over-all profits (from 192,900,000 pesos to 245,400,000 pesos) for an average fall in profits per firm of 5.3%.

• **Another Argument**—Government economists contend that such calculations are unfair since the normally low profits of infant firms offset sharp rises in profits of the older "base" firms used in government studies.

Little things that become Big Things



washed by the tide,—storing in hot damp rooms and open exposure to the weather,—plating with lacquer, copper, cadmium, nickel, chrome, zinc, silver, lead—dipping in dichromate, sealing with plastics. A vast cycle of experiments were tried and tested and the results compared. From all this effort came a standardized product made of steel, and approved for use on all the battle fronts.



"THOUSANDS PER MINUTE"

The making of this ammunition is really the art of producing many pieces rapidly—many thousands per minute, every day, 6 days a week. Ninety-nine operations are performed to take each piece of ammunition from the lead, steel and powder stage to the formed, loaded, tested and packed, finished article—ready to shoot,—with every piece perfect in shape, finish, and firing efficiency.

We have made our first billion of this steel ammunition. Not that this is a top record for ammunition making but, to us, it is a milestone passed on the road to Victory. We will pass the second and third billion with much less emotion but we really got a thrill out of joining the ranks of the important producers of ammunition.

With this change to steel we release, with every billion rounds, thousands of



"COULD IT BE DONE WITH STEEL?"

that were provided for the use of brass? Could the steel be treated to withstand the corrosion of a long sea voyage and to resist successfully the humidity of the tropics and the sub-zero temperatures of the Arctic? The U. S. Army Ordnance Department—and our own engineers, metallurgists and technicians believed it could. More engineering talent—this time chemists—were added to the laboratory staff and the larger and more complete Chrysler Corporation laboratories, in Detroit, were also directed to the solution of this problem.

The first of the new steel casings were made in the month of August, 1942. They were pretty good. Then began severe testing,—spraying with wet salt air, burying in salty mud marshes



"A LITTLE THING BECAME BIG"

tons of brass. This brass can now be used in war production where no other substitute is possible.

A finished round of ammunition weighs only a few ounces. Little things often do become really big and important.

THE U. S. ARMY Ordnance Department, early in 1942, asked one of our executives if we had a factory near a ready supply of water, of sufficient size to make small calibre ammunition at the rate of many millions every twenty-four hours. We had such a factory on the Ohio River with enough feet of floor space. It was well placed near



"FROM CARS TO BULLETS FOR TOMMY GUNS, PISTOLS, REVOLVERS"

additional unused land and far enough from the city to allow the storage of powder and the loading and testing of ammunition.

The work of preparation was started immediately. The automobile machinery in the plant, which could not be used, was dismantled and put elsewhere. It was replaced by new and different equipment. A specialized laboratory was installed and staffed with engineers, metallurgists, and technicians drawn from



"TESTING FOR EVERY BATTLE FRONT CONDITION"

our widely diversified staff. Production executives and specialists were also selected from our own personnel. While the factory was being prepared for pro-

WAR PRODUCTS OF CHRYSLER CORPORATION

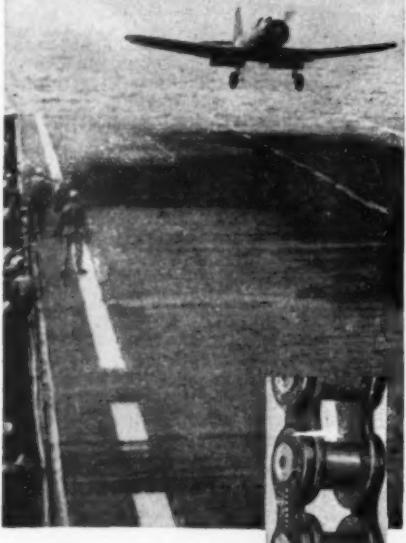
Tanks . . . Tank Engines . . . Anti-Aircraft Guns . . . Bomber Fuselage Sections . . . Bomber Wings . . . Aircraft Engines . . . Wide Variety of Ammunition . . . Anti-Tank Vehicles . . . Command Reconnaissance Cars . . . Cantonment Furnaces . . . Troop Motor Transports . . . Ambulances . . . Marine Tractors . . . Weapon Carriers . . . Marine and Industrial Engines . . . Gyro-Compasses . . . Air Raid Sirens and Fire Fighting Equipment . . . Powdered Metal Parts . . . Navy Pontoons . . . Field Kitchens . . . Bomb Shackles . . . Tent Heaters . . . Refrigeration Compressors . . . Aircraft Landing Gears . . . and Other Important War Equipment.

[WAR BONDS ARE YOUR PERSONAL INVESTMENT IN VICTORY]

PLYMOUTH • DODGE • DE SOTO • CHRYSLER

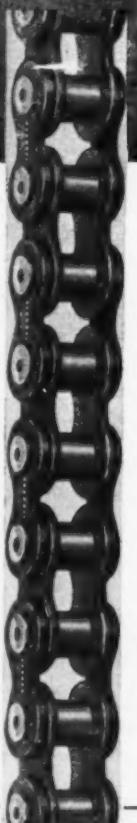
Divisions of CHRYSLER CORPORATION

WHITNEY
AIRCRAFT CHAINS
help them
"HOOK ONTO THE DECK"



When an incoming pilot touches the control to drop his arresting hook, there can be no slowness or stiffness of response. So on many carrier-based planes, the prompt and positive action of arresting-hook mechanisms is underwritten by the specification of Whitney Aircraft Chains.

This is one of dozens of plane mechanisms and controls for which Whitney Roller Chains and Sprockets have been chosen for their dependability... plus their extreme compactness, flexibility, lightness in weight. And today, these Whitney precision products are made available directly to the aircraft industry through the personalized, specialized service of the Whitney Aviation Division. This service places all Whitney's technical and manufacturing resources at your command now.



THE WHITNEY
Chain & Mfg. Co.
Hartford, Conn.
AVIATION DIVISION

Brazil's Transition

Vision of industrial self-sufficiency assuming shape. New steel mill to have a capacity of 1,000,000 tons eventually.

SAO PAULO—The rapid progress being made on the Volta Redonda steel mill is a symbol of Brazil's passage from an agrarian country to one largely self-sufficient in basic industrial products.

- **Capital Fully Subscribed**—Despite U-boat activities in the western Atlantic throughout 1942, only 322 tons of furnace bricks and 25 tons of equipment have been lost en route from the United States, and more than 21,000 tons of materials have arrived. Capital for the mill expansion (\$25,000,000) has been fully subscribed by the government, semiofficial organizations, and banks, and the \$25,000,000 credit from the U. S. increased by \$20,000,000 to offset rises in material costs in the U. S.

Brazilians are proud that, except for the material and technical assistance from the U. S., the whole building program—involving 50,000 tons of iron, 3,000,000 bags of cement, 3,000,000 square meters of timber, 400 cubic meters of stone, and more than 30 miles of rail building—is being financed locally.

- **Independence Seen**—Production is expected within a year, and the first year's operations will include 260,000 tons of pig iron, 250,000 tons of steel ingots, 185,000 tons of steel sheets, bars, sections, rails, and tinsplate—the last figure to be upped to 242,000 tons in the following year. With the present output schedule running over 500,000 tons and the plant's ultimate capacity fixed at 1,000,000 tons, Brazil will be practically independent of imported raw materials and semifinished iron and steel products.

Byproducts to be obtained from the plant's 55 coke ovens will reduce the chemical industry's reliance on imported materials (BW—Jun. 5'43, p64).

- **Will Export Ore**—The Volta Redonda project is closely linked with the exploitation of the Itabira iron mines, for whose development the U. S. has lent \$14,000,000. The new concern formed to take over the mines has a capital of \$10,000,000 (55% held by the government), and it plans to export as much as 1,500,000 tons of high-grade ore a year in addition to supplying Volta Redonda.

These two major efforts may signify a waning dependence on foreign steel, but they symbolize as well Brazil's attitude toward foreign investment in the country. President Vargas continues to reiterate that Brazilians must dominate new exploitations, that services closely linked to national defense—iron mining

to make transport and defense equipment, use of hydraulic power to generate and operate industry, and operation of internal railways which must move troops and produce—be entirely Brazilian-controlled.

- **Owes 18 Railroads**—Already the application of this principle is visible in the control now exercised by government over transport and other economic activities. The government owns 18 railways valued at \$250,000,000; a major part of national shipbuilding concerns; important dock and river navigation services; controlling interests in Volta Redonda and the Itabira mines, and a stake in national coal mining concerns which will furnish the fuel to make coke for the steel mill's blast furnaces.

CANADA

Diplomatic Lineup

Ottawa would give each United Nations a voice in making decisions proportionate to contribution to the project.

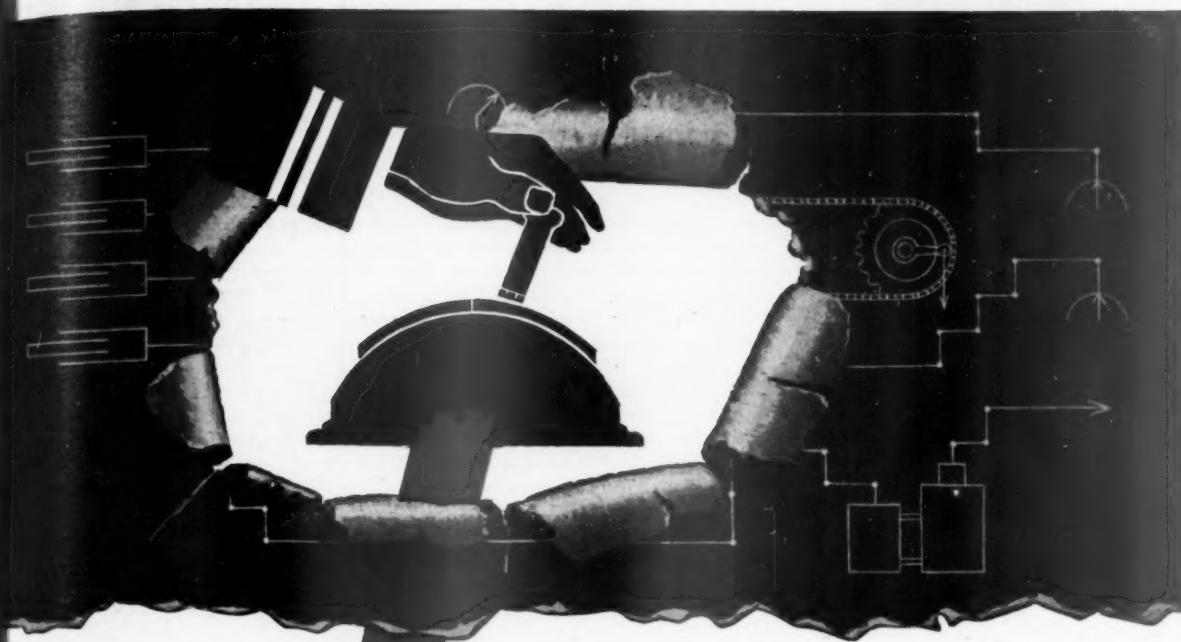
OTTAWA—Prime Minister Mackenzie King has supplied Canada's answer to the question of national representation in international administration which will control world affairs before and after the end of the war. Before the Canadian House of Commons last week, King maintained that domination by major powers was unacceptable, that equal representation for all United Nations was impractical, and suggested that division of authority ought to be on a functional basis.

- **According to Participation**—Under King's formula, representation would be measured by the contribution any country is able and willing to make to a particular objective sought by the international body. "Effective representation" is the Canadian Prime Minister's term for describing the authority to be wielded by a member nation.

Significance of the King formula for Canada is that, on a functional basis, the Dominion would be able to claim first place on one or more control bodies and second, third, or fourth place on several others.

- **Big Share in Grains**—In food supplies for liberated countries (page 38) as for Russia and China, Canada will make a major contribution—and rank first in cereals supply at least. In seed grain for restoring European production, Canada will probably rank with the United States, ahead of all other countries.

In the supply of mechanical equipment



All work-and no play!

A lot of modern products and plant equipment aren't performing up to design possibilities... because controls haven't kept pace with the mechanical developments.

W·A·B Remote Control Systems take these hobbles off.

With W·A·B Controls, you can govern an almost limitless variety of multiple functions from one small, compact station. These systems work every time—all the time. They eliminate back-lash and overrun. They make connecting levers, bell-cranks and similar devices unnecessary.

W·A·B Control Systems respond to a touch instead of a tug, yet can exert powerful operating force where required. A group of functions can be progressively handled by a series of movements, front to back, of a single control handle.

In engine control, for instance, movement of the handle in the forward quadrant produces as fine and precise control as does throttling, while the mere

movement of the handle through the neutral position can declutch, apply a shaft brake, reverse the gears or cam shaft, release the brake, and re-engage the clutch.

The basic operating principle provides graduated pressures that cushion equipment against shock, and prevents error by the operator in the speed or the order of sequence operations.

Whether you are concerned with production or with product improvement, it will pay you to check your control needs against the advantages that W·A·B Remote Control Systems offer. In many cases, problems have been completely solved with regular "off the shelf" W·A·B devices. Phone, wire or write.

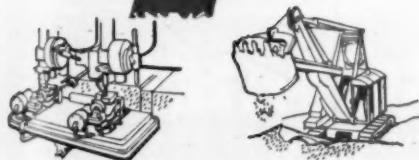
Westinghouse Air Brake Company



INDUSTRIAL DIVISION

General Offices: Wilmerding, Pa.

74 Years of Pneumatic Control Experience



W·A·B

PNEUMATIC
PNEUMATIC-ELECTRIC
PNEUMATIC-HYDRAULIC

control systems



Small tug...vast liner

ALMOST every powered craft uses gauges to indicate pressure of water, steam, oil, air or gas. And many of the ships that fly the stars and stripes, depend upon Ashcroft Gauges.

They go under the sea in our submarines, on the surface with fighting and transport ships—and they also serve in aircraft of all kinds.

Enduring accuracy is built into them. The new war-inspired plastic cases are even more tough and durable than the heavier metal cases they replaced.

For every conceivable type of installation in industry or transportation, there is an Ashcroft Gauge just right for the job.

Should the need arise for a new kind of gauge installation, then look to Ashcroft to provide exactly what is required.

For 90 years we have made the finest, most accurate pressure instruments. Ashcroft Gauges, dial sizes from 2" to 36", indicate pressures from a few ozs. to 50,000 lbs. for water, steam, air, oil or any liquid or gas.

Stocked and sold by leading Distributors everywhere... When you order gauges, insist on ASHCROFT... Write for booklet.



ASHCROFT Gauges

MANNING, MAXWELL & MOORE, INC.
BRIDGEPORT, CONNECTICUT

Makers of Ashcroft Gauges, Hancock Valves, Consolidated Safety and Relief Valves and 'American' Industrial Instruments. Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties.

48 • The War—and Business Abroad

ment for rehabilitation, the Dominion's contribution will rank not lower than third, with the United States and Britain in the lead. In manufactured supplies, Canada is also expected to have enough to spare to become the third most important source.

• **Trade a Determinant**—In decisions on monetary policy and other considerations affecting world trade, Ottawa will insist on "effective representation" corresponding to the Dominion's position as fourth among trading nations.

Even in the job of policing the globe, Canada will be able at the end of the war to make the fourth or fifth largest contribution of armed power.

King intends his formula to be for immediate as well as future application. Observers saw in the discreetly worded outline of the proposal a thinly veiled warning of Ottawa's dissatisfaction with a situation in which Canada is expected to concur in bilateral decisions between London and Washington without having had an original voice in the matter.

• **More Voice Desired**—When Canadian action is needed to give operational effect to proposals arrived at by joint agencies of the U. S. and British governments, these proposals are now referred to Ottawa. King didn't say it in so many words, but his statement is interpreted as meaning that Ottawa doesn't consider this arrangement good enough and that the Dominion is making a bid for enlargement of these agencies to include equitable representation for Canada.

Timing of the Prime Minister's speech is considered significant—just when the Combined Production & Resources Board of Britain, U. S., and Canada was holding its first Canadian meeting in Ottawa with Donald Nelson and Sir Henry Self sitting under the chairmanship of Canadian Minister of Munitions Clarence D. Howe.

• **Credit for the Gifts**—Ottawa's claim to a higher rank among the United Nations has been under preparation for months. The first move was substitution this year of directly negotiated lend-lease—to the tune of \$1,000,000,000—for the gift of similar size to Britain in 1942. This year Ottawa arranges what, where, and when supplies will go to needy Allies, and for the first time will get credit for such contributions.

WORK ON THE RAILROAD

Canadian National Railways has a \$640,000,000 capital expenditure program ready for implementation after the war if it is needed to provide employment.

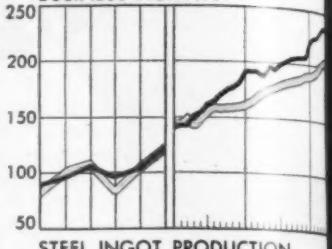
The program would provide 95,000,000 man-days of employment. Capital expenditure would be in four divisions: (1) \$59,500,000 for capital works to expand C.N.R.'s field of operations; (2) \$206,773,000 for self-liquidating

TREND OF BUSINESS CANADA AND U.S.A.

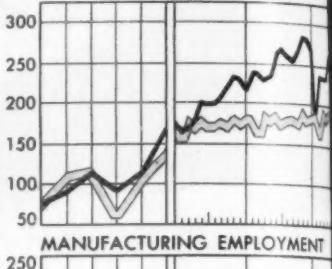
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CANADA ————— U.S.

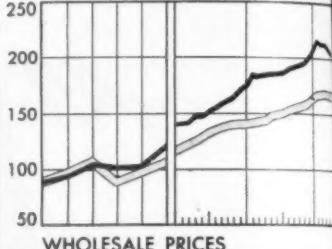
BUSINESS ACTIVITY



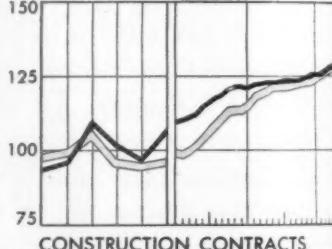
STEEL INGOT PRODUCTION



MANUFACTURING EMPLOYMENT



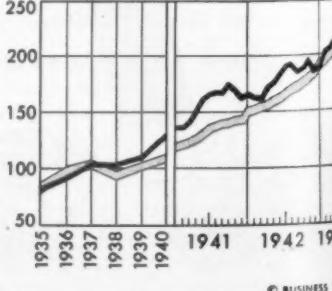
WHOLESALE PRICES



CONSTRUCTION CONTRACTS



NATIONAL INCOME



© BUSINESS WEEK



"GRANDDADDY" OF THE JEEP

* * * A Marmon-Herrington All-Wheel-Drive converted Ford is credited with being the prototype of the army Jeep, by Earl Godwin in his Ford Motor Company's radio program "Watch the World Go By," on March 15th.

In September 1936, Marmon-Herrington engineers produced their first half-ton passenger-carrying vehicle having power and traction applied through all four wheels. This was a standard Ford "pick-up" truck converted to All-Wheel-Drive in the Marmon-Herrington plant. "The Jeep," said Earl Godwin, "merely applies the same principles



of design to still smaller and lighter ($\frac{1}{4}$ -ton) vehicles."

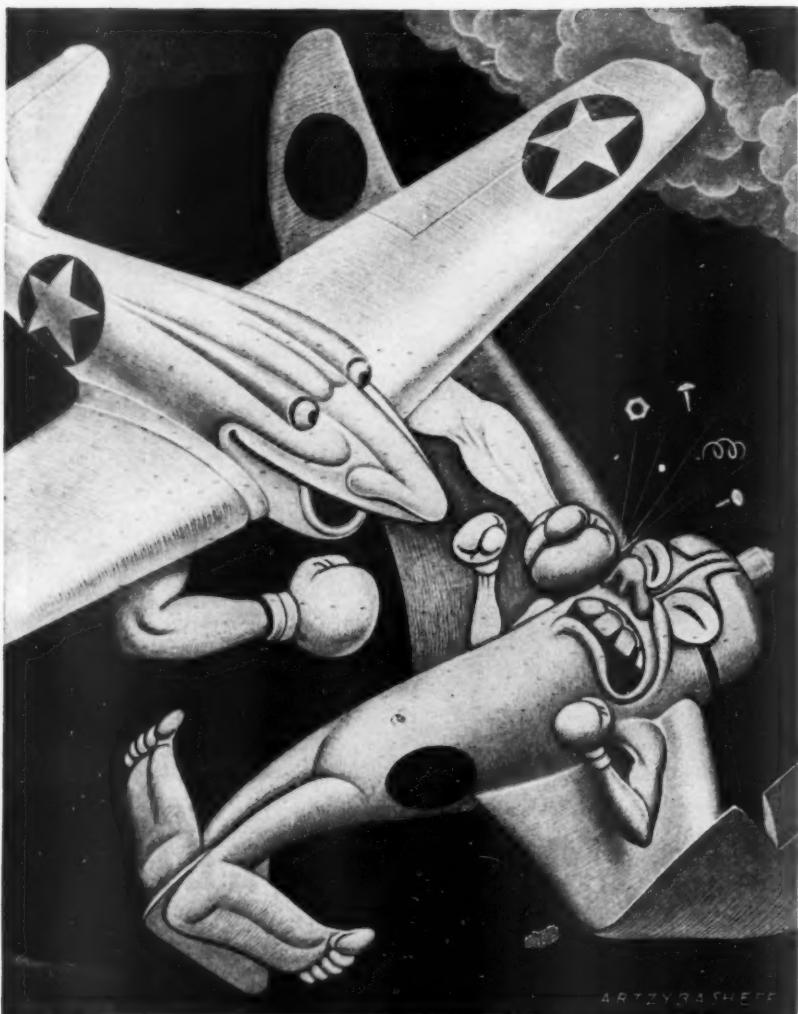
This company's greatest contribution to the war effort has not been production, although thousands of trucks, tractors and tanks of our manufacture are now serving the

United Nations on all fronts. Of far greater importance, in our opinion, have been the many "firsts" in concept and engineering developments which we have passed along to others having greater output facilities for actual production.

The same genius which created the first conversions of mass-production vehicles to All-Wheel-Drive, the first high-speed track-laying tractor, and the first half-track truck with driving front axle, will provide outstanding advancements in civilian vehicles, too, after this war is won. Help speed "V" Day, the Bond savings way!

MARMON-HERRINGTON

INDIANAPOLIS, INDIANA



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Wire Cloth Wallop

One reason U. S. A. pilots can get speed that puts them on top to deal knockout blows is America's fast-growing production of 100+ octane gasoline.

An ingenious development for the close fractionation of this higher octane gasoline is Stedman packing. Close fractionation is now also practical for large scale production of synthetic rubber, toluene and a wide variety of other products . . . some of them hitherto impossible to distil commercially.

Heart of each Stedman column is thousands of pieces of strong Wickwire Spencer wire cloth . . . just one of the almost endless variety of wire materials for which this 122-year old company has won world reputation. When your war production calls for wire or wire products, put your needs up to experts.

• • •
War Bonds are an investment that reflects your confidence in Victory and America's future.

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 NEW YORK (18), N. Y.

STANDS FOR
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FAMOUS FOR QUALITY IN WIRE, INDUSTRIAL WIRE CLOTH, WIRE ROPE, SPRINGS, METAL CONVEYOR BELTS,
 POULTRY NETTING, HARDWARE CLOTH, INSECT SCREEN CLOTH, ELECTRICALLY WELDED FABRIC FOR CONCRETE

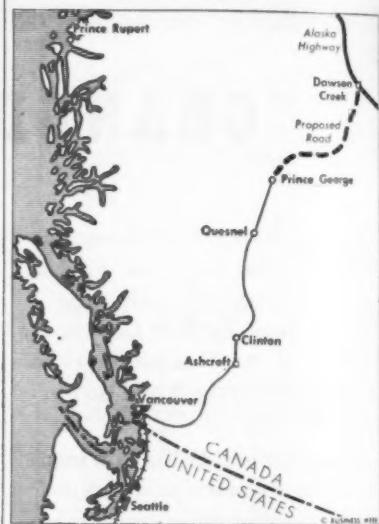
projects; (3) \$270,000,000 for desirable but economically marginal projects and (4) \$103,500,000 for desirable but uneconomic projects.

Capacity of the state-owned transport system to carry out the program is tied by officials to an assumption that the Dominion's national income will be maintained at the present \$8,000,000,000 level after the war.

CANADA TO GET COAL

One result of last week's meeting of the Combined Production & Resources Board in Ottawa (page 46) is likely to be a special tagging of sufficient United States coal to keep Canadian war plants at peak production. Donald Nelson is understood to have recognized the importance of this in his survey of production in Ontario plants and in consultation with Canadian production chiefs. In exchange, Canada will speed output of wood pulp to supply U. S. requirements (BW-Jul.10'43,p34).

During the first five months of this year, Canadian coal production at 7,507,000 tons was 7% below last year, and output of coke experienced a similar decline.



ALASKA FEEDER

Pacific Northwest business men have been upset ever since engineers chose the inland route for the Alaska highway. Now they're determined to build a feeder road to accommodate traffic from the Portland-Seattle-Vancouver area. To their Pacific Northwest Trade Assn., British Columbia already has pledged \$6,000,000; they want the U. S. and Canada to supply equal amounts. The \$18,000,000 feeder would link the Vancouver-Prince George road with the Alaska highway at Dawson Creek, B. C.

**MATERIALS HANDLING . . . A BIG WAR JOB
WELL DONE, BY BATTERY POWERED TRUCKS**



**POWERED BY PHILCO "XL" BATTERIES,
TRUCKS HAUL 10% MORE MATERIALS**

In war plants everywhere, electric industrial trucks are assigned the tremendous job of moving materials *where they're wanted, when they're wanted!* And everywhere, too, these trucks are powered with Philco "XL" Batteries because with a Philco in the battery box, trucks do 10% more work! Philco "XL" Batteries are engineered to give you 10% extra capacity with extra wallop...longer life...better performance, too. For complete details, write for latest Philco Industrial Truck Battery Catalog.



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Replace with **PHILCO** *Industrial Batteries*

PRODUCTION

Triple Debut

Without time for a formal introduction, U. S. Stoneware is turning out a new cement, coating material, and elastic plastic.

Officials of the United States Stoneware Co. are up against the tough triple job this summer of supplying the demands for three new products before they have really been formally introduced: Reanite, a cement in a number of formulations for replacing rivets and welding in joining metal to metal, metal to wood, or almost any sheet material to any other; Tygon F, a cold-coating material with a plastic base for proofing fiber cans and paper closures against moisture and other hazards; Tygon T, an elastic plastic for replacing rubber in molded goods like hot water bags and leather in shoe soles.

To Get on the Record—The officials might have withheld formal announcement of Reanite a little longer while they helped R. H. Macy & Co. to merchandise the new shoe soles in the New York market (under the tentative name of Vicsoles), but along came Goodyear Tire & Rubber and Chrysler with their announcement of Cycleweld, a similar cementing process (BW-Jun. 12 '43, p78). They decided it was an excellent idea to get all three products on the record before any other competition might rear its head.

Reanite, in its original form, is an established Canadian product which has been used in the U. S. for some time by such firms as American Hard Rubber and Anaconda. Several months ago, U. S. Stoneware and General Tire & Rubber thought they saw possibilities in it, bought U. S. rights on a 50-50 basis, and embarked on a cooperative research program of further development. Just recently they put through final incorporation papers for Reanite (U.S.A.), Inc., which will manufacture formulations developed through joint research. U. S. Stoneware will handle sales.

Two Formulations Ready—Thus far, two formulations are ready: Reanite 111-K, for joining metal to metal, or rubber to bronze; Reanite 3615, for joining rubber to rubber, rubber to wood, wood to wood, synthetic rubber such as Thiokol and Neoprene and Buna to metal or to themselves. Both are dark gray liquids (a metallic color is a future possibility) which may be applied by brush, dip, or spray. After application on both surfaces of a prospective joint, the material is allowed to dry

for about an hour (overnight drying does no harm but is not essential), then the coated pieces are clamped together at pressures from 60 psi. to 1,000 psi., depending on the materials being joined.

Next step calls for heat and time, a relatively short time at high temperature being equivalent to longer cures at lower temperatures. Fifteen minutes at 290 F. gives the same enduring joint as two hours at 215 F. Tests indicate that Reanited joints of two aluminum alloy sheets like those used in airplane fuselages have greater shear strength than similar riveted joints, greater creep strength, and several times the impact strength. Tensile strength ranges from 1,000 psi. to 3,000 psi. Reanited airplane parts are more rigid than those fabricated by riveting or spot welding, and will withstand any degree of heat or cold to which a plane may be subjected in service.

A Cent an Inch—Since the liquid cement comes in 55-gal. drum lots at \$6.90 a gallon, and each gallon will make from 125 sq. ft. to 150 sq. ft. of finished joints, the cost of materials for bonding figures out to be much less than a cent a running inch of joint. For the duration, Stoneware expects to have all it can do to keep up with airplane demand; for postwar markets, it is looking into prefabricated houses, automobile bodies, electrical appliances, and aircraft.

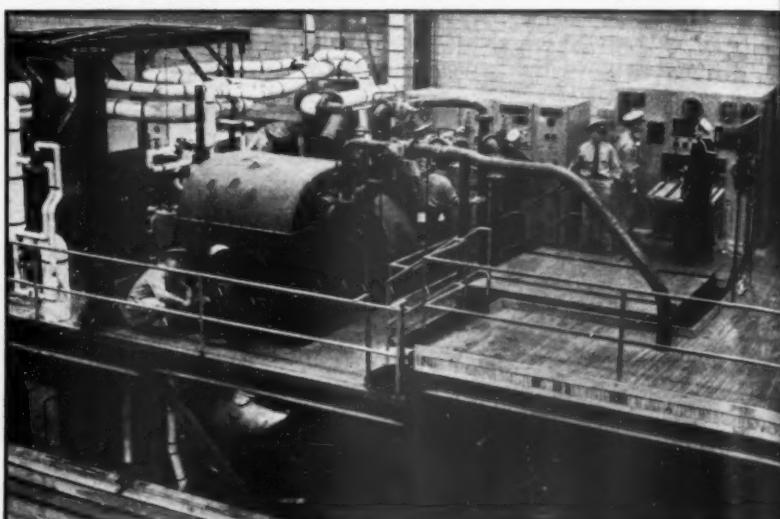
Tygon F (F for furfural, the oat derivative) is a thermosetting plastic in

liquid form which can be applied by brush, dip, or spray to paper, fiber, any other material which needs to be moistureproofed, acidproofed, and sealed, and can be subjected to a baking temperature to bring the thermosetting action into play. One dip and bake makes the sides of a fiber can almost stiff as ordinary tinplate; a couple of dips and bakes, and it is not only just stiff but almost equally as vaporproof.

Only in Black—Stoneware does not aspire to compete with tinplate after the war, but right now it believes Tygon F has a real contribution to packaging processing threaded fiber caps for vacuum coffee jars and cosmetic containers. The material comes only in black, but preliminary tests show that vacuum is capped with treated fiber closures hold their vacuum and the closures hold the shape.

Tygon T (T for alliteration and to distinguish it from other Tygon forms) which have been coming to market mainly as chemical tank linings for several years) is a "modified halide polymer," the basic and fairly plentiful material of which is secondary, or waste vinyl plastic left over from Navy insulating materials, Army airplane safety glass and so on. Unlike Tygon F, it is thermoplastic, begins to soften at temperatures approaching that of boiling water, and can be plasticized to remain pliable down to -105 F.

Superior Wear Resistance—In shoe soles, it has not quite the spring of natural rubber, but has wear resistance superior to leather. Since it takes almost any color, it can be made brown like leather, red or black like many rubber products; since it is thermoplastic,



AT SEA—ASHORE

All but heaving decks are provided by the U.S.S. Knox, land training "ship" anchored firmly in General Electric's Syracuse plant. Future operating

crews for destroyer escorts receive a 30-day course under joint G.E.-Naval supervision at the plant, partly aboard the "ship," a replica of an escort carrier engine room. The engines operate under conditions simulating those at sea.

has no future whatever as a substitute for rubber in tires which often run as hot as 300 F. on the road.

Most amazing thing about Tygon T is its versatility. Formulated one way, it has stiffness; formulated another, it has elasticity and life and springiness approaching that of natural rubber, and can even be lead-impregnated for use in protective X-ray mats. More important still, it is probably the first nonrubber material that can be molded in standard rubber molds. And that means that hot water bags, fountain syringes, tubing, bath mats, sink mats, toilet seat bumpers, and other molded products can be coming to market again. Though they may cost twice as much as rubber, they will last several times as long.

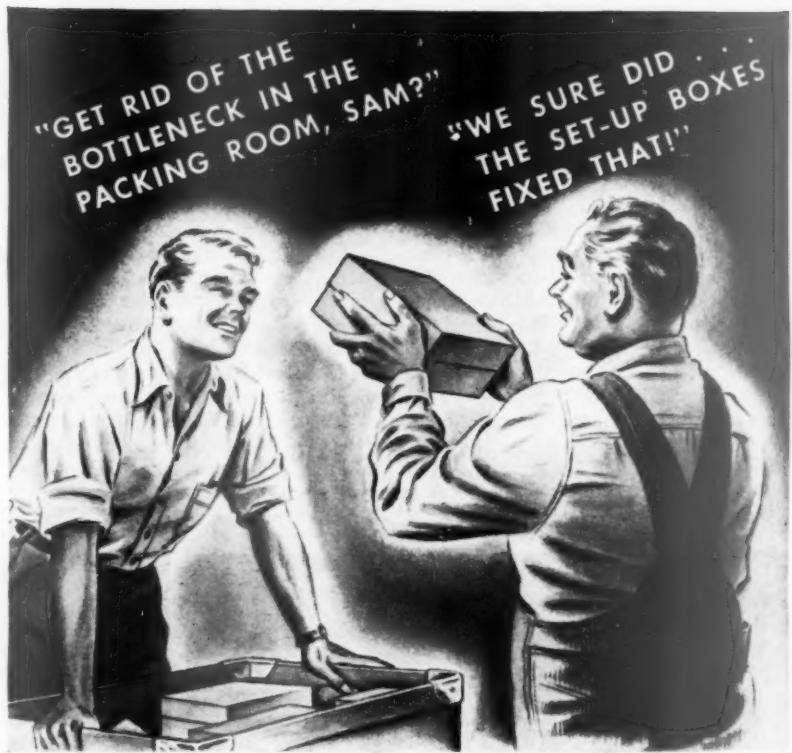
• **Useful in Gloves**—Modified in another way, Tygon T can be dip-molded over forms to make "rubber" gloves and finger cots, or to coat fabric work gloves and make them resistant to quite a list of chemicals. Another formulation is being used to make silent caster wheels for furniture and industrial trucks, still another for catheter tubes and tiny "raflex" tubes by which radium is applied therapeutically to hard-to-get-at portions of the body. For the marketing of such hospital sundries, Stoneware has set up a subsidiary, Bell & Baldwin, Inc., operating from its New York headquarters in the Lincoln Bldg.

Vitamin Upset

The fortification of all fluid milk seen likely if invalidation of ultraviolet irradiation patents is allowed to stand

If the recent decision of the Ninth U. S. Circuit Court of Appeals in San Francisco stands, the three lucrative vitamin patents held by the Wisconsin Alumni Research Foundation, an affiliate of the University of Wisconsin (Report to Executives: BW-Jul.10'43,p55), will become void. The patents relate to the process of producing vitamin D by subjecting substances to ultraviolet irradiation—a process based on research by Dr. Harry Steenbock of the university's staff.

• **Process of Nature**—In 1941, the foundation sued Vitamin Technologists, Inc., of Los Angeles, manufacturers of vitamin products, for infringement, and the lower court declared the patents valid and issued an injunction. On appeal, the Circuit Court found that ultraviolet irradiation is a "process of nature." Whether it comes naturally from the sun, or artificially from quartz mercury vapor lamps, was considered immaterial. Credit was given Steenbock for valuable scientific contributions, but of a kind for which no system of government



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reward has been provided. The case will go to the U. S. Supreme Court, but meanwhile, the injunction against Vitamin Technologists, Inc., is dissolved.

The defendant concern, organized in 1934, had perfected a process for producing Vitamin D concentrates of high potency on an economical basis. Its president, Menfred L. Johnson, inventor of the process, states that the company has equipment capable of producing enough Vitamin D to fortify 50,000,000 quarts of milk daily. With low-cost Vitamin D, dairy companies can fortify all milk to sell at the same price as unfortified milk, he claims.

• Royalties \$7,500,000—More than 250 licensees operated under the patents, including the large pharmaceutical houses, Fleischmann's Yeast, du Pont, and General Foods. More than \$7,500,000 in royalties had been collected.

North for Spruce

Loggers are fighting a last mighty battle to bring from an Alaskan forest wood that is needed for airplanes.

Despite the dramatic, and little publicized, opening up of what is described as "the world's last great storehouse of aircraft spruce," in southeastern Alaska, a crisis is developing in the production of U. S. and British wood-built bombers, fighters, trainers, and cargo planes.

Experienced Washington and Oregon "gyppos"—a term of complete respectability, covering independent logging operators—have been moving into the Sitka spruce reserves of the Tongass Na-

tional Forest, which blankets the southeastern Alaskan panhandle and hundreds of offshore islands. With them have gone several hundred loggers and construction workers.

• A Big Order—The government has asked them to deliver as much aircraft spruce from this one forest in 1943 as the entire spruce industry of the States produced last year. But numerous factors—including manpower shortages, ruggedness of terrain, and length of communication lines—have conspired to prevent the carrying out of this schedule.

The total U. S. production of spruce aircraft lumber has been declining for several months, owing to the depletion of forests and to a noticeable drop in the quality of timber cut.

• More Wood in Planes—The situation is critical because of the stepping up



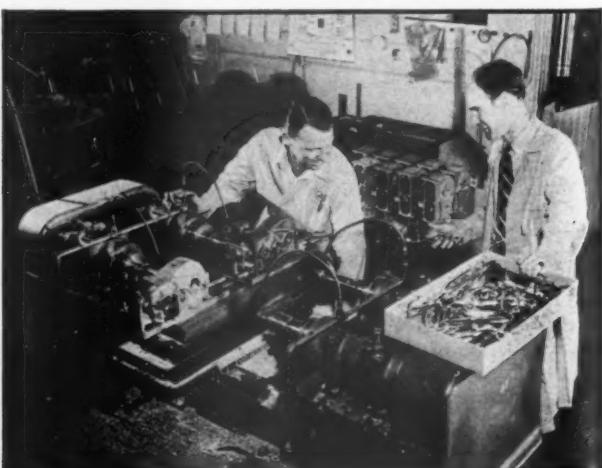
STILL AFLOAT

To stay in business during this sink or swim period, many little fellows have mustered undreamed of resourcefulness—and stayed afloat. Typical are concerns around Los Angeles turning out \$40,000,000 worth of plane parts

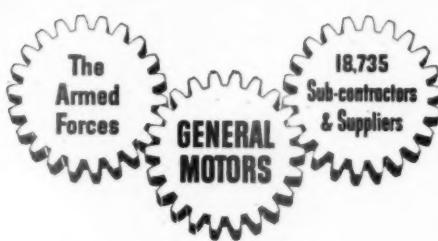
a year for major aircraft plants on subcontracts. Now a service station (above left) is a tiny war plant with 22 housewives working two shifts; a one-time lunchroom is a miniature factory producing electrical equipment for bombers, the counter an assembly bench, the stove used for heating



solder, and the refrigerator a storage locker. Making aileron ribs instead of furniture, one manufacturer uses a converted pants presser for drying glued forms, while the Langley Instrument & Machine Co. makes flying boat gear boxes on machines that once tooled surgical instruments.



WORKING TOGETHER



IT HAS BEEN our privilege to play an important part in war production—geared with the supply services of the Army and Navy, and with almost 19,000 other producers who have worked with us.

Figures show how successful this "partnership" has been. But they do not show the valuable direction and cooperation we have had from Army and Navy officials. Nor do they indicate the fine spirit of "teamwork" shown by our suppliers and sub-contractors.

While 18,735 organizations have shared our big job of war production, there have actually been more than 68,000 such "partnerships" established. For, in many cases, several divisions of General Motors have gone to the same source, though for different types of work.

It is interesting to note that nearly three-fourths of the firms which have furnished us parts for war products, employ less than 500 people. Of these more than half employ 100 or less.

We have chosen our sub-contractors and suppliers carefully, in order to secure those best qualified for the work at hand.

In this we have had one great advantage: "Subcontracting" is merely a wartime extension of a time-honored General Motors method. We have always dealt with thousands of suppliers of materials and parts.

And so we have known how to proceed in establishing sources dependable as to both quality and efficiency of performance—not only among organizations with which we have formerly worked, but also with the thousands of others which it has been necessary to add.

This sub-contracting "know-how"—combined with manufacturing "know-how"—is largely responsible for the consistent quality of the war goods produced. It also accounts for cost reductions totaling hundreds

of millions of dollars, turned back to the Government.

The "partnership" of the Armed Forces, General Motors and the thousands of other businesses involved—some large, some small—is but one example of co-operative wartime endeavor by the automobile industry.

All companies in this mass-production industry have been cooperating with one another—and with organizations not formerly supplying the automotive industry—in order to utilize all knowledge and facilities suited to the task.

The success of this method demonstrates one fact of tremendous importance to all Americans:

American enterprise and its time-tested production methods are meeting and fulfilling the most imposing demands ever placed upon the industry of any country.

FACTS ON GENERAL MOTORS SUB-CONTRACTING

Total number of sub-contractor-supplier connections with GM divisions.....	68,505
Number of separate organizations from which GM purchased parts, materials, services and supplies.....	18,735
★ ★ ★	
Size of organizations furnishing us with parts for war production—as indicated by special survey—was as follows:	
Firms employing less than 100 people.....	43%
Firms employing 100 to 500 people.....	31%
Firms employing more than 500 people.....	26%
★ ★ ★	

General Motors' policy on sub-contractors and suppliers has resulted in the spread of approximately one-half its war work to outside firms.

The figures above are taken from an exhaustive study of sub-contracting prepared in connection with a recent report to the War Department.

GENERAL MOTORS "Victory is Our Business!"

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Two Educations for the price of One!



It costs about \$26,000 to put a flyer through training for our armed forces—and your War Bond money helps to pay for that vitally-needed education. It helps a young man right now to fight the battle for freedom.



It costs about \$4,000 to put a young man through college. The same War Bond money, after the war is won, can train a boy for the battle of life—your boy who will reach college age a few years from now. That's how you can buy two educations for the price of one!

It costs so much to win this war that Uncle Sam needs every dollar you can put into War Bonds. You might earmark some of the money for post-war use on improving your home or your plant. That's where this 67-year-old company of ours comes in. Through our all-out war work we're learning plenty of new tricks—and when this is all over—you'll get the benefit!

**A \$1,000
WAR BOND
PAYS FOR:**

NOW <ul style="list-style-type: none"> Flying clothing and equipment for five Air Corps pilots Enough oxygen to keep a pilot high above anti-aircraft range for 5,000 hours 375 oxygen face masks 	AFTER THE WAR <ul style="list-style-type: none"> Several years of college tuition Several years of college living expenses Student's clothing for almost entire college life Money for extra-curricular activities
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60 • Production

of the production programs of Mosquito bombers, Hurricane fighters, Caravan cargo planes, and many other types of combat and training craft which are basically of wooden construction. Following the spectacular success of the all-wood Mosquito, the British in recent months have redesigned numerous other planes in order to permit the use of more wood. The bulk of the wood used both by American and by British aircraft manufacturers has come from Oregon and Washington, with most of the rest coming from British Columbia.

Unfortunately for the United Nations aircraft program, Sitka spruce grows only in a narrow "fog belt" bordering the North Pacific coast. It is considered the preeminent aircraft wood, because its extremely long fibers are tightly interlocked, giving it a tremendous bending strength.

• **Scout for the Timber Front**—Foreseeing the present shortage, the War Production Board last year sent a call for help to the Forest Service, whose officials made a quick survey of the depleted forests in the States and concluded that the only hope lay in opening up the Alaskan wilderness. They dispatched one of America's foremost foresters, James Girard, author of most of the aircraft wood grading rules, to the Tongass National Forest by plane to "cruise" and grade sample areas of timber. He sent word to Washington that the stands of aircraft-grade timber were big enough to justify a large-scale logging program.

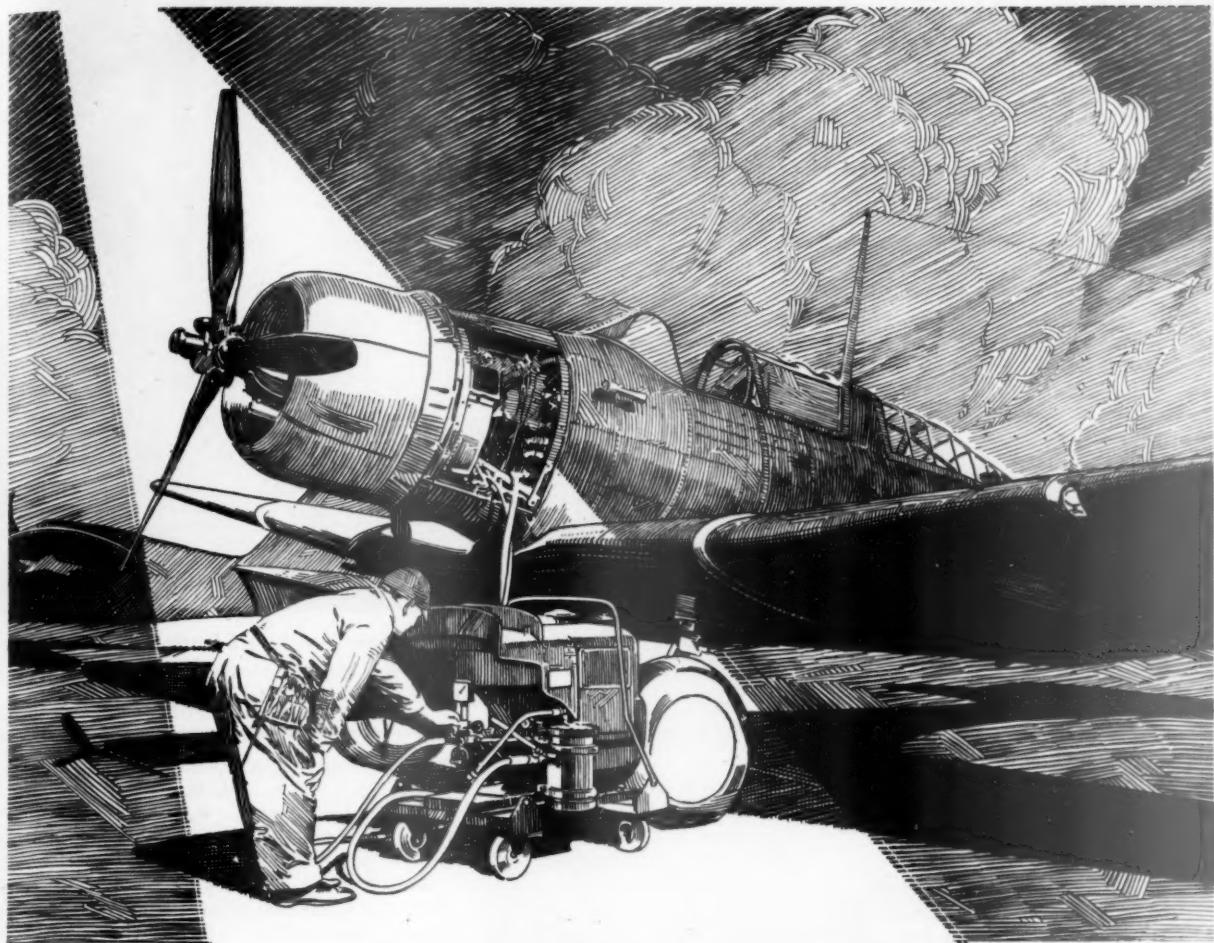
It was promptly arranged for the Commodity Credit Corp. of the Dept. of Agriculture to set up the Alaska Spruce Log Program, with the Forest Service overseeing operations. The new agency was instructed to buy stumpage from the Tongass National Forest and then to make contracts with private operators for felling the timber and logging it to tidewater. Then the agency was to take responsibility for rafting the logs to Puget Sound, and selling them to mills which are "certified" by F. H. Brundage, Portland, war-time timber "czar."

• **Starting the Camps**—In handling the complex problems that arise in fighting the "battle of spruce," the agency director, B. F. Heintzleman, and general manager, Charles G. Burdick, shuttle from offices in Juneau, Ketchikan, and Seattle.

After his appointment on the spruce job, Burdick opened temporary offices in a Seattle hotel room and began negotiating with experienced Oregon and Washington logging operators.

The largest camp has been developed on Kosciusko Island by Ed Buol, Puget Sound operator, who contracted with Burdick to log 80,000,000 ft. of timber.

• **Landing Force**—Buol's undertaking dramatizes the scale of operations required for a pioneering job of this kind. The shipping of initial supplies and



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This man, and this machine, are your brother's
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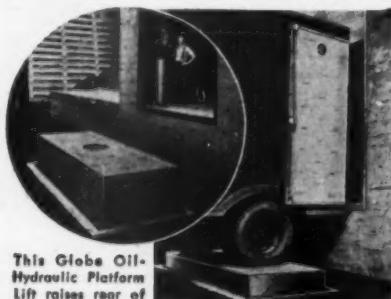
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your own son, perhaps
— may be among the thousands of air force heroes who owe much of their daily safety to the behind-the-scenes performance of this HydrOILic Test Stand!



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In southern Alaska and on Canada's northwestern islands, the world's last great stands of spruce are being cut for aircraft plywood. Average trees are 450 years old, tower 200 ft., and yield some 9,000 board feet of lumber.

equipment for his camp required six scows, each 40 ft. wide and 110 ft. long. Nudged along by stout-powered tugs, the scows headed out of Seattle on one of the strangest voyages of the Pacific's history. Lashed on them were two rock crushers, four 24-ton bulldozers (each almost as heavy as a General Grant tank), five 10-ton logging trucks, six big diesel "donkeys," dozens of knocked-down wooden buildings, plus 15 miles of thick steel cable and 50 tons of food.

The clumsy scows safely transported their strange assortment of cargo to Kosciusko. Crews ran the big tractors down ramps to the shore. Then, using hand jacks, they dumped the five-ton units of prefabricated buildings into the icy sea and towed them to the beach with outboard-motor boats.

• **Tough Country**—In Alaska, veteran loggers from the Pacific Northwest have encountered the toughest logging of their careers. This is a truck-logging operation, and building roads into the timber is the biggest troublemaker. In the Coast range of Oregon and Washington, the bulldozer blades on big tractors quickly move the tons of earth required for building a forest road. But a crew building a road in an Alaskan Sitka spruce forest must blast its way through stretches of limestone bluffs which are relieved only by bottomless swampy pits of muskeg. With 90 inches of rainfall a year, the woods are continually soaked.

The average Sitka spruce which is logged for aircraft lumber is about 450 years old, 200 ft. high (80 ft. to the first limb), and 6 ft. in diameter at

breast-height. Such a tree yields close to 9,000 b. ft. of lumber.

• **Voyage of the Rafts**—After the private operators transport the logs to tide-water, the Alaska Spruce Log Program Agency assembles them into giant cigar-shaped Davis rafts, tightly bound by heavy cables. The largest raft was 250 ft. long, 60 ft. wide, and 30 ft. deep. Ocean-going tugs then take over and start the rafts on the long and perilous journey to Puget Sound.

Raft No. 5, containing a little more than a half-million board feet, is now en route to Puget Sound, and raft No. 6 is scheduled to leave shortly. The Alaska agency is trying to persuade several score more loggers to sign up for work in the far north.

• **Last Stand**—Incidentally, Manager Burdick is convinced that this is Sitka spruce's last war. He explains: "Only timber from virgin stands is good enough for aircraft use. When the present forests are cut over, as they will be if the war lasts a few years more, there will be no more Sitka spruce planes. 'Tree-farming' won't solve the problem, because Sitka spruce requires too many centuries to make commercial growing practicable."

Burdick summarized the current Sitka spruce situation as follows: "Roughly 18,000,000 ft. of logs have been sold, are in raft form, are in the water in flat rafts, or are in some form of production in the woods. If we can get another 60 or 75 men during the next couple of weeks, our production should be stepped up, beginning July 1, to about 10,000,000 ft. of logs per month."

FIRE CHIEF

A patented Hooperwood "Engineered Canvas" permanently resistant to fire, water, weather, mildew and wear.

WM. E. HOOPER & SONS CO.
PHILADELPHIA
New York • Chicago
Mills: WOODBERRY,
BALTIMORE, MD.

HOOPERWOOD COTTON DUCK

"the rest of the world"

"SEE-ABILITY"
helps make them
in the world's
best-lighted plants

TODAY, the speed of the nation's aircraft production is amazing even ourselves. In this effort, "See-ability" is playing an important part. For through better lighting, men and women are working to closer limits, working with less fatigue, turning out better planes faster. All this calls for millions of Westinghouse Mazda Lamps, cuts deeper into the nation's supplies of nickel, copper, tungsten. That is why in plants everywhere, it is necessary that each lamp be made to provide the most in "See-ability."

How to Get More out of your Lamps
1) Keep lamps and fixtures clean; (2) properly position all lighting; (3) check entire system. For additional suggestions see the new, illustrated 16-page brochure, "See-ability for Indoor Eyes," prepared by Westinghouse. Write or your copy today. Westinghouse Electric Manufacturing Company, Bloomfield, N. J.



Westinghouse
MAZDA LAMPS
FOR GREATER "SEE-ABILITY"

NEW PRODUCTS



SPEED-1943 STYLE

WHAT was maximum speed to Rickenbacker and Richthofen is landing speed today!

Today's packing methods are modern, too—as modern as the latest fighter plane to wheel off the assembly line.

Engineered General Boxes, for instance, are streamlined for speed, assembly is quick and easy since they come in one piece. With tare weight reduced to a minimum, handling is fast with less effort. And at destination unpacking is accomplished without delay . . . while the durability of General Boxes assures re-use. In addition General Boxes conserve space in ships, trucks, trains and on the shipping room floor . . . assure the extra strength required to stand up in today's over-land and over-seas travel.

Perhaps General Box engineers can aid you with your shipping problems. They have had wide experience in aiding shippers to meet various government packing specifications. Write today for full details.

For manufacturers of war products: General Heavy Duty Wirebound and Nailed Wooden BOXES and CRATES.

Where availability of materials permits: Corrugated BOXES and Wooden Cleated Fibre Board CONTAINERS, Generalite and Nailed Strap BEVERAGE CASES for domestic service.

GENERAL BOX COMPANY



General Offices:

502 North Dearborn Street, Chicago, Ill.
District Offices and Plants: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon.

CONTINENTAL BOX COMPANY
Houston, Dallas

Portable Studio

The new "Portable Photographic Darkroom Outfit," now being manufactured by Eastman Kodak Co., Rochester, N. Y., might even be called a portable studio. It packs within a space of less than two cubic feet almost everything you can think of for exposing, de-



veloping, printing, and enlarging pictures. Practically all it lacks is a tent, inclosed truck, or other dark space for the actual processing.

Picture-taking equipment includes a Kodak "35" using 35-mm. film, supplementary lenses and filters, Kodapod camera support, extra film, carrying case, flash synchronizer, flash batteries, cable release, and electric exposure meter. Developing and printing equipment includes chemicals, trays, printing paper, safelight, timer, clips, thermometer, daylight loading tank, adjustable easel, and portable enlarger. Two lights with reflectors, which can be hooked to any automobile battery, are provided for copying. Right now all such outfits are going to the Army, Navy, and Marine Corps; after the war, an adapted model may be built for civilians.

Seagoing Enamelled Sheet

While the war goes on, the Seaporcel Corp., 28-20 Borden Ave., Long Island City 1, N. Y., will specialize on marine requirements for Seaporcel, its new porcelain enamelled sheet steel now going into joiner bulkheads and onto the table tops of troopers, tankers, and other vessels. Like other enamelled steels, it is practically corrosionproof, will not burn or char, and almost never needs refinishing of any kind. Unlike most of them, it can be hack-sawed, band-sawed, squaring-sheared, drilled, torch-cut, bolted, riveted, or welded—almost as if it were uncoated metal.

Since the kind of enamel used adds stiffness to the metal, 24-gage sheet (1 lb. to the square foot) can frequently replace 16-gage (2½ lb. to the square foot) formerly used in a painted or uncoated state. Seaporcel, which must be

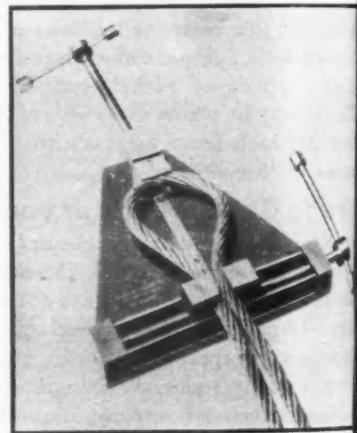
fired like any ceramic, comes in a mat finish. In the postwar period it is expected to find a variety of nonmilitary uses in the fields of architecture, home furnishings, display, and so on.

Adhesion Speeder

Just a few drops of Sulfatace added to the water used for moistening paper sealing tapes are said to reduce the time and labor required in sealing cartons, envelopes, and other packages. It is a specialized new wetting agent formulated by Glyco Products Co., Inc., 3 Court St., Brooklyn, for producing rapid penetration of the adhesive and almost instantaneous setting, or adhesion. It is suggested that it will serve similar purposes when mixed with "finished glue pastes, mucilage, and silicate adhesives."

Cable Vise

The arduous jobs of splicing, clamping, or forming wire rope and cable in eyes or around thimbles promise to be considerably expedited by the use of a portable new Riggers' Forming Vise developed by Patrick-McDermott Co., 1645 E. Slauson St., Los Angeles.



Cables from $\frac{1}{8}$ in. to $1\frac{1}{2}$ in. diameter are held securely by a pair of inbuilt jaws which are equipped with guards to protect against cable and thread friction. The tool has a 14x15-in. base, weighs about 50 lb.

Portable Spot Welder

Two years ago the Progressive Welding Co., 3050 East Outer Drive, Detroit, was in the throes of developing the Frostode Spot Welder which uses a refrigerating unit instead of city water to cool the welding tips (BW—Nov. 11, p42). By reason of the same refrigerating principle, the company is now able to mount such a welder in a self-contained unit.

A LITTLE-KNOWN STORY...

How America really prepared for war

THIS IS A STORY about a country called America... and about something we did that Hitler thought we couldn't.

Chapter One is about our Armed Forces. Chapter Two is entitled Co-operation (may sound dull, but it isn't). Chapter Three contains a few facts you've never heard before about the Belly Turret in the Flying Fortress.

CHAPTER I

From the time Hitler came into power until the year before war came to America, Germany was spending as much on war goods each week as we were spending in a year.

With our military budget so limited, our Armed Forces were in a pretty bad spot. So what did our Army and Navy do... give up? No, they used their heads instead.

They decided — because they didn't have enough money to buy great quantities of weapons — to develop working models of the best, the most advanced weapons that brains could devise.

Also, they decided to complete plans so that these weapons could be produced in mass — and we mean mass quantities — when and if war struck. End of chapter.

CHAPTER II

To get these working models developed, our military and naval leaders asked for help from trusted concerns with which they had worked for many years.

They got what they asked for. These concerns laid out the necessary money, often big money, for experimental work. They had no assurance of future orders for any equipment they might develop. All they knew was that the country's security demanded that the work be done.

These companies opened up their laboratories to one another. Gave the use of their patents, royalty free. Developed

new weapons of all kinds. Tested them. Ironed out the bugs. The weapons developed in those peacetime years included much of the well-known and recently publicized equipment, as well as devices which must remain secret.

When war got so close you could taste it and appropriations were finally made, the working models and the blueprints were ready! They were immediately turned over to our great mass-production industries.

The Army and Navy helped these companies tool up, provided machinery, buildings, and (where needed) money to launch the biggest production effort in history. And the best workmen in the world went to work on war goods instead of peace goods. End of chapter.

CHAPTER III

A typical example of how the job worked out has to do with work done prior to Pearl Harbor in protecting the belly of the Boeing Flying Fortress.

When attacked from the side, rear or above, the Fortress could knock the spots off enemy fighters. But when attacked from below, neither the tail gunner nor the nose gunner could cover all attackers.

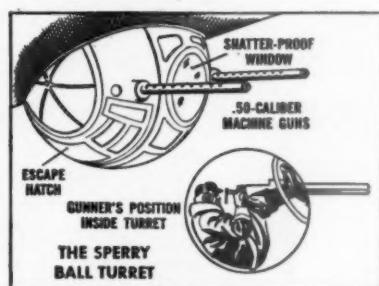
Air Force officers at Wright Field took the problem up with the Sperry Gyroscope Company, because of Sperry's experience in developing aiming and firing controls for guns... aviation equipment such as the Sperry Automatic Pilot and the Sperry Bombsight... and several hundred other precision weapons, instruments, and devices.

Working together... and aided by Vickers, Inc., a Sperry company... they created the Sperry Ball Turret. This turret is a sphere made of aluminum and Plexiglas, installed in the belly of the plane. Inside it sits a gunner with two .50-caliber machine guns that can stop an attacker before the Fortress comes within the enemy's range.

The gunner has full vision through an opening of shatterproof glass. His guns are aimed by a Sperry Computing Sight that takes into account the range, course, and speed of an enemy plane. In aiming, the whole turret (propelled by hydraulic "muscles" developed and built by Vickers, Inc.) turns smoothly at the will of the gunner.

These belly turrets — and the top turrets developed by Sperry and made by other American concerns — have helped make America's big bombers the deadliest air battleships in the world.

After the Sperry Ball Turret had been perfected, assistance in turning out the vast quantities needed was sought from two of America's great mass-producers... the Briggs Manufacturing Company and the Emerson Electric Company.



The necessary adaptations were made that permitted faster mass-production, and Briggs and Emerson are now turning out Sperry Turrets in quantity, while National Cash Register Company helps Sperry turn out the Computing Sights.

That's the story... the little-known story of how America really prepared for war... a story that, we hope, will make you even prouder of our Armed Forces and of the American way of getting things done.

Sperry
CORPORATION

30 Rockefeller Plaza, New York

FORD INSTRUMENT COMPANY, INC.
SPERRY GYROSCOPE COMPANY, INC.
VICKERS, INC.

VICKERS, INC., Waterbury Tool Division

THEY GIVE THEIR LIVES... YOU LEND YOUR MONEY! BUY MORE WAR BONDS.



WELD-CLEANING

-a must on War Work -a cinch with Osborn Brushes

• Government specifications call for the cleaning of all welds prior to painting or other finishing. Welding scale and slag must be completely removed to prevent corrosion.

In spite of the vast amount of weld-cleaning that must be done, too many are using slow, inefficient hand methods.

This is a job for Osborn power-driven brushes. This is a job for the speed and efficiency of the many Osborn brushes expressly designed for cleaning welds of every kind quicker, better, and at much lower cost.

—Radial and cup brushes for large areas, flat seams, inside angles and curves.

—Special end brushes for corners and inaccessible places.

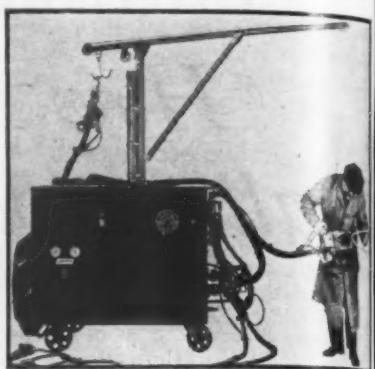
With welding far more widely used than ever before and weld-cleaning a *must*, speed of cleaning now holds the key to efficiency.

Increase that speed and boost production by cleaning your welds—large and small—with the Osborn brush designed for the job. There's an Osborn representative near you who will gladly show you how Osborn Brushes can step up your output. Write *The Osborn Manufacturing Company, 5401 Hamilton Avenue, Cleveland, Ohio.*



WORLD'S LARGEST MANUFACTURER
OF BRUSHES FOR INDUSTRY

tained field cart. Almost any kind of repair spot weld can be made on stainless steel or other light-gage steels without hauling an airplane or other dam-



aged mechanism to hangar or distant repair shop.

Since the tips are cooled by chemical refrigerant rather than water, the only connection required for the cart is a power cable. Equipment includes an electronic timer and a wide selection of both air-operated and manual tong-type "guns." Cables supplying current to the latter are of the Progressive (P-H) concentric kickless type.

New Products Briefs

Also reported this week, not only for their interest to certain designated business fields, but also for their possible import in the postwar planning of more or less allied fields and business in general, are the following:

• **Textiles**—Patent No. 2,322,893, just granted to Celanese Corp. of America, 180 Madison Ave., New York, covers a new Spindle-Hour Meter. It is a registering device for automatically checking the operation of multispindle winding machines. Each spindle is equipped with a switch which opens when it is running, closes when it stops.

• **Clothing**—American Viscose Corp., 350 Fifth Ave., New York, is working on government contracts for elastic braids, made with long-lasting Vinyon plastic instead of rubber, to be used in essentially feminine garments for the Wacs. It is also producing elastic Vinyon cord for suspending the canopies over Army jungle hammocks.

• **Metalworking**—Large ferrous centrifugal castings like sewer pipe and airplane engine liners are becoming standard items of modern manufacture. Small nonferrous "Precision Centrifugal Castings" like those being turned out by Morris Kaplan & Sons, 21 W. 46th St., New York, are much newer items. They are custom-cast in the alloys of aluminum, brass, bronze, copper, or zinc in almost any shape, and in sizes up to 1½ in. long. Permanent molds, which seldom cost more than \$100, are good for 50,000 to 100,000 castings.



Brother, if I'd only had this YESTERDAY

THE ONE TIME that a fighting man needs fighting tools, is when the fight is on.

To deliver arms "too late" is almost certain to mean tragedy to some man who might otherwise have had a fighting chance. It is almost certain to mean *needless names* on the casualty list.

It is this unnecessary lengthening of the casualty list that reveals the true meaning of industrial slow downs, today. It is the one way to understand the vital necessity of avoiding production slow downs *wherever they can be prevented*, and of delivering war materials on time.

There is one type of plant slow down that can, and should be prevented: the slow down due to valve failures.

Most valve failures are the result of neglect. They can be forestalled by proper care, and such care is the imperative responsibility of management.

Prevent valve trouble *before it starts* . . . by frequent, systematic inspection . . . by repairing or replacing worn parts before valves destroy themselves . . . by instructing new maintenance workers thoroughly . . .

by selecting new valves carefully, installing them properly.

Jenkins engineers are ready to assist any management in developing an program of valve conservation.

*Reprints of this advertisement are available
for display in your plant.*

Jenkins Bros., 90 White Street, New York 13, N. Y.; Bridgeport, Conn.; Atlanta, Ga.; Boston, Mass.; Philadelphia, Pa.; Chicago, Ill. Jenkins Bros., Ltd., Montreal; London, Eng.



JENKINS VALVES

SINCE 1864

For every industrial, engineering, marine and power plant service . . . in Bronze, Iron, Cast Steel and Corrosion-Resisting Alloys . . . 125 to 600 lbs. pressure.



WAR BUSINESS CHECKLIST

A digest of new federal regulations affecting priorities, price control, and transportation.

Surplus Army Property

Complete overhauling of the Army's procedures for disposing of surplus government-owned and Army-controlled industrial property (BW-Jun.19'43,p53), to speed it back to production, has been announced by the War Dept. Under the new procedure, the Army may dispose of the property for direct war use at any time by sale or lease to war contractors; by transfer to other War Dept. components or the Navy, and by transfer to the American Red Cross and the United Service Organizations. (Revised Procurement Regulation 7.)

Alien Property Custodian

In view of the steadily growing demand for licenses under patents seized from enemy owners, Alien Property Custodian Leo T. Crowley has announced that, beginning Aug. 1, 1943, the fee for obtaining a license will be a flat \$15 for each patent, instead of \$50 for a single patent plus \$5 for each related patent included in the same license. This action, it is expected, will make it easier for small manufacturers to put single patents to work promptly. For information concerning the 40,000 patents and patent applications now held by the Alien Property Custodian, inquiries should be addressed to the office of Alien Property Custodian, Field Bldg., Chicago, Ill.

Ration Banking

The ration banking system that was formerly open to retail food establishments doing more than \$2,500 monthly business was opened July 12 to establishments doing less than \$2,500 business monthly. Recent improvements in ration banking technique permit such retailers to maintain ration banking accounts after the former July 1 deadline, and to reapply for openings of such accounts as were closed under the earlier order. (Amendment 71, Ration Order 3—Sugar; Amendment 45, Ration Order 12—Coffee; Amendment 45, Ration Order 13—Processed Foods; Amendment 46, Ration Order 16—Meats—Fats.)

Shoes



SOUND IN AN ENVELOPE best describes a SoundScriber 7" disc. Feather-light plastic; unbreakable; can be mailed or filed like a letter.

War Plants save manpower and costly mistakes with SoundScriber

It's electronic . . . the equipment that handles all sound recording problems of business . . .

With speed so essential in war work, the spoken word must often be relied upon . . . to get things going before putting it in writing.

And that's where SoundScriber steps in to keep the record straight by making instantaneous "voice copies" of exactly what is said, for future reference.

No wonder then that more than a thousand of America's leading producers of war goods have turned to electronic SoundScribing to save time and costly mistakes.

For example: One of the largest companies in the airplane industry (name on request) purchased their first SoundScriber late in 1941. After thorough

trial, they have bought more than 60 additional SoundScribers.

YOU CAN BUY SoundScribers, if you are engaged in essential war activity, to record labor-management and other meetings; negotiations; conferences; personnel interviews; field reports; "live voice" correspondence. For these and dozens of other uses SoundScriber does the job at much less cost, and with complete accuracy.

WIRE OR WRITE for complete information. The SoundScriber Corporation, New Haven, 11, Connecticut.

SOUND SCRIBER
TRADE MARK
SOUND IN AN ENVELOPE

Copyright 1943, The SoundScriber Corp.

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Army E Navy

PRODUCTION FLAG WINNERS

Arlies Switch Corp.
Watertown, Mass.
Atlas Powder Co.
Reynolds, Pa.
The Baker Mfg. Co.
Springfield, Ill.
The Bastian-Blessing Co.
Chicago, Ill.
Beetin, Dickinson & Co.
Rutherford, N. J.
Bethlehem - Hingham Ship-
yard, Inc.
Hingham, Mass.
Borg-Warner Corp.
Muskegon Heights, Mich.
The Bristol Co.
Waterbury, Conn.
Brown Instrument Co.
Philadelphia, Pa.
E. Burkhardt & Sons Steel
& Iron Works Co.
Denver, Colo.
Cannon Electric Develop-
ment Co.
Los Angeles, Calif.
The Carborundum Co.
Niagara Falls, N. Y.
Casey Jones, Inc.
(Five plants)
The L. D. Caulk Co.
Milford, Del.
Chicago Bridge & Iron Co.
Newburgh, N. Y.
The E. D. Clapp Mfg. Co.
Auburn, N. Y.
Commar Products Corp.
Newark, N. J.
C. G. Conn, Ltd.
Elkhart, Ind.
Corning Glass Works
Charleroi, Pa.
Difco Laboratories, Inc.
Detroit, Mich.

The Dow Chemical Co.
Pittsburg, Calif.
Ethyl Corp.
(Two plants)
Fay & Scott
Dexter, Me.
Freeport Sulphur Co.
(Two plants)
General Electric Co.
York, Pa.
General Machinery Co.
Spokane, Wash.
Gillette Safety Razor Co.
Boston, Mass.
Hannifin Mfg. Co.
Chicago, Ill.
Hercules Powder Co.
Hercules, Calif.
H. R. L. Machine Works,
Inc.
Seattle, Wash.
Industrial Metal Fabricators,
Inc.
Chicago, Ill.
International Silver Co.
(Two plants)
Johns-Manville Products
Corp.
Lompoc, Calif.
Cyril Johnson Woolen Co.
Stafford Springs, Conn.
Librascope, Inc.
Burbank, Calif.
The Magee Carpet Co.
Bloomsburg, Pa.
Metro Tool & Gage Co.
Chicago, Ill.
Monsanto Chemical Co.
Springfield, Mass.
Multiplex Mfg. Co.
Berwick, Pa.

Philip Myers Co.
Towson, Md.
Nashville Bridge Co.
Nashville, Tenn.
The National Carbon Co.
Niagara Falls, N. Y.
Orange Screen Co.
Maplewood, N. J.
Pacific Gear & Tool Works,
Inc.
San Francisco, Calif.
Parris-Dunn Associates
Clarinda, Iowa
Phoenix Tool & Mfg. Co.
Chicago, Ill.
Piedmont Cotton Mills
Egan, Ga.
Republic Aviation Corp.
Farmington, N. Y.
Seagull Mfg. Co.
Philadelphia, Pa.
Sloan Valve Co.
Chicago, Ill.
Springfield Buick Co.
Springfield, Mass.
Taylor Bedding Mfg. Co.
Taylor, Tex.
Taylor Instrument Co.
Rochester, N. Y.
Tycoon Tackle, Inc.
Miami, Fla.
Waukesha Foundry Co.
(Two plants)
The Wiremold Co.
West Hartford, Conn.
Worthington Mower Co.
Stroudsburg, Pa.
L. A. Young Spring & Wire
Corp.
Trenton, N. J.
Zollner Machine Works
Fort Wayne, Ind.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

pliers, however; sales may be made any time after July 19. All types of shoes are covered in the order, and each dealer may choose within limits the shoes he wishes to include in the sales. He is not entitled to get ration currency to replace old shoes, and in advertising, the words OPA Odd-Lot Release" must be used. Amendment 27, Ration Order 17.) Specific dollar-and-cents prices for bushed hardwood heels and heel blocks, used in women's shoes, have been established at levels approximately 15% higher than existing ceilings. (Regulation 420.)

Eggs

To bring wholesale prices of eggs in line with retail prices, cents-per-dozen maximum prices for wholesale grades of eggs

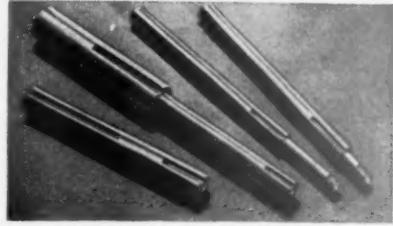
have been fixed for sales by producers and shippers to primary receivers, jobbers, and retailers, and the classification known as "assorted" eggs has been eliminated, by an amendment to Regulation 333. The newly established wholesale prices will be about 5¢ a dozen higher than last year's prices, effective July 12. (Amendment 10, Regulation 333.)

Fish

A rollback of 10% to 20% in the maximum prices of 48 species of fresh fish has been established by OPA on a cents-per-pound basis. Effective July 13, prices are set for five categories, according to the type of sale, for producers and wholesalers only; retailers' rollbacks are expected shortly. Maximums are fixed at the port of

PRECISION PARTS

4 MORE ACES UP UNCLE SAM'S SLEEVE



Precision-machined, precision-ground
on all diameters and threads.

Elevating shafts . . . vertical training shafts . . . screw leveling shafts . . . just so many metal parts to the uninitiated. To the Jap pilot in a Zero, however, they mean anti-aircraft fire too accurate for comfort.

These vital parts of an anti-aircraft gun are typical of the ability of Ace to do fine precision-work on a mass-production basis. The ground tolerances are .0003" (1/30 the thickness of a human hair) . . . keyways are held within .0004" and must be absolutely parallel from end to end and side to side . . . concentricity between diameters is held to less than .0005" . . . and threads must be ground for the fine accuracy so essential to final assembly and quick replacement.

Today, the demand is for speed, and Ace offers its facilities to other manufacturers on a 24-hour-a-day, 7-day-a-week production basis, embracing: 1. The finest machines in the industry. 2. Managerial know-how for producing parts twice as fine, ten times as fast, as ever before. If you have small parts for stamping, machining, grinding, or assembling, send us a sample, a sketch, or a blue-print for quotation.

This new booklet describes the facilities available at Ace for the machining, assembling and heat treating of small parts. A copy will be gladly sent upon request.



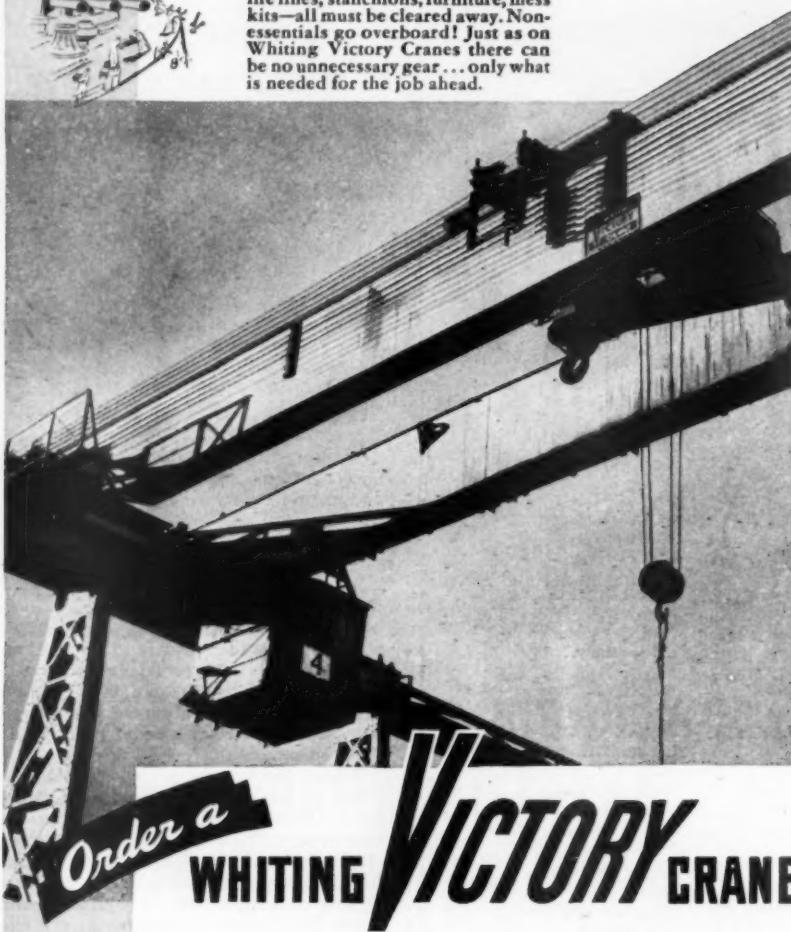
ACE
MANUFACTURING
CORPORATION
for Precision Parts

1211 E. ERIE AVE., PHILADELPHIA 24, PA.



Clear FOR ACTION!

When a warship prepares for battle, life lines, stanchions, furniture, mess kits—all must be cleared away. Non-essentials go overboard! Just as on Whiting Victory Cranes there can be no unnecessary gear...only what is needed for the job ahead.



Order a

WHITING VICTORY CRANE

Crane refinements and extras lose their importance in the face of today's huge war-winning task. To speed production, Whiting is making Victory Cranes by simpler methods...using time-saving processes and readily available materials.

More important than ever are durability and dependable service—which never are sacrificed in Whiting Victory Cranes. Each crane is guaranteed to do its job...just as all Whiting cranes have been for nearly sixty years. Whiting Corporation, 15661 Lathrop Avenue, Harvey, Illinois.



WHITING

CORPORATION

Quiet-Running OVERHEAD TRAVELING CRANES

Cranes and Production Equipment for Foundries, Metalworking, Aircraft, and Chemical Plants • Service Equipment for Railroads, Buses, and Airlines

entry; to figure them in other cities, transportation costs—to be fixed by OPA regional offices—are to be added. (Regulation 418.)

Cents-per-pound maximum prices, representing a rollback, have also been announced for sun-dried shrimp, produced only in Louisiana. Prices are 35¢ per pound on the platform, and 42¢ per pound packaged. (Regulation 419.)

At the canning level, five additional types of salmon have been placed under dollar-and-cents maximum prices by an OPA amendment that rolls back the price of Alaska Chinook \$2.00 per case. (Amendment 2, Regulation 265.)

Sugar

Because all wholesalers of sugar are now covered by the wholesale grocery fixed markup regulation (RMPR 237), the provisions establishing maximum prices for wholesalers of direct consumption sugar have been eliminated from the revised price schedule. (Amendment 9, Revised Price Schedule 60.)

Tea

Because packers of tea have been unable to get the inexpensive blends they formerly imported, and because they have been unable to sell the more expensive growths at March, 1942, prices without a substantial loss, OPA has named dollar-and-cents maximum prices to which some brands may be raised. By allowing a reasonable profit in the more expensive types of tea, the new amendment is expected to put certain brands back on the grocers' shelves. (Amendment 192, Supplementary Regulation 14.)

Gasoline

Provisions by which motorists in the northeastern gasoline shortage area may use their A rations, beginning July 15, for one round trip to a summer home or other vacation place—in the absence of adequate alternative transportation—have been announced by Price Administrator Prentiss M. Brown. Motorists must get authorization for such trips by applying to the War Price & Rationing Board, giving starting point, destination, and dates. The authorization does not carry with it provision for extra gas; the traveler may use only what is available on the basis of the A coupons he holds. (Ration Order 50, as amended.)

License Plates

Metal on hand, or sheet and strip steel of not heavier than 22 gage, which is listed as idle or excess inventory with the Steel Recovery Corp., may be used by states to manufacture one 1944 license plate per motor vehicle. This WPB ruling has been found necessary to take care of new registrations and replacements for old license plates that have become illegible. (Supplementary Order L-32-a.)

Rayon Hosiery

A number of seasonal constructions of women's rayon hosiery are given specific price ceilings for the first time by an amended OPA ruling. By permitting 30

gage full-fashioned hosiery to be made of 100-denier rayon instead of 150, as heretofore, and by allowing full-fashioned continuous filament acetate rayon hose to be made with 75 courses less than the previous minimum, two additional constructions are classified as Grade A hosiery, selling at Grade A prices. The requirement for a further 25% reduction in Grade B rayon hosiery prices has been eliminated. Rules for marking hose and for posting price tables have been simplified. (Amendment 4, Regulation 339.)

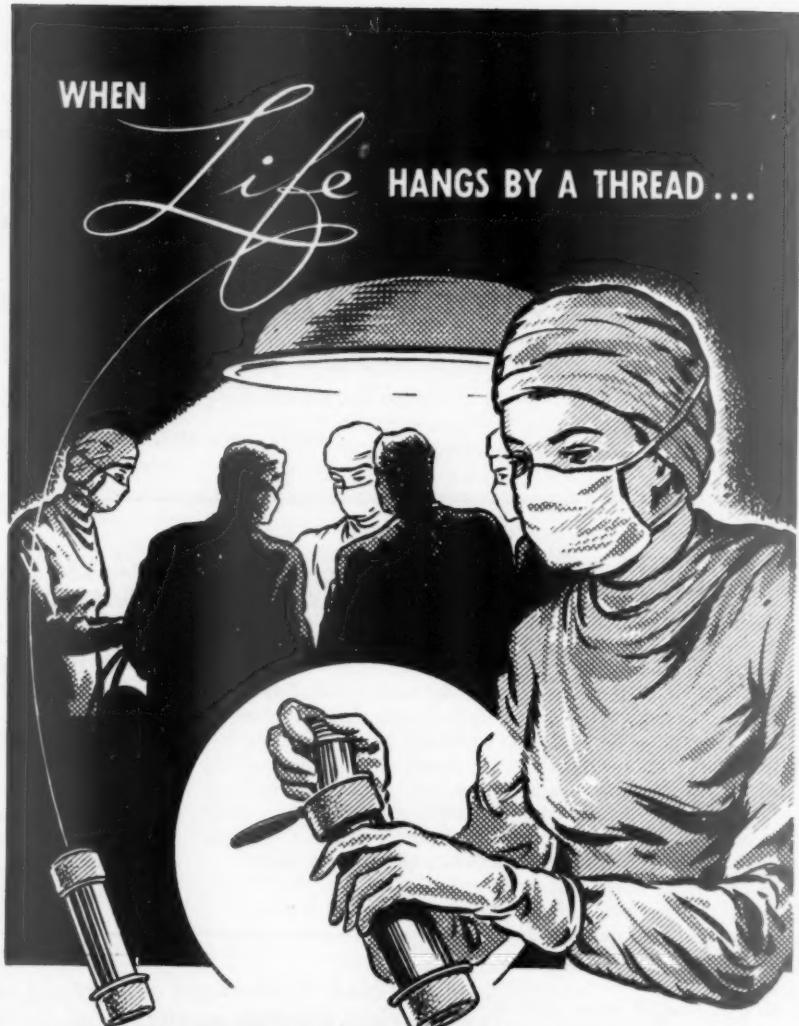
Hardwood Lumber

The price regulation for central hardwood lumber has been streamlined by OPA in an effort to simplify the work of the lumber industry and to eliminate the necessity of applying to OPA for specific price approval. Dollar-and-cents ceilings have been established for both north central and south central white and red oak structural stock or sound square edge material, white and red oak freight car stock, common dimension, mine car lumber. New differentials are also set up for standard special widths and lengths of all hardwood species, and of basswood and poplar, at the levels which OPA has been approving for individual mills. The amendment provides further that sellers shipping lumber in green condition must deduct 10% from the maximum prices provided for air-dried lumber. Navy oak ship stock, covered by Regulation 281, is exempted from this order. Definitions are those of the Na-



WHALE IN A ROLL

Any combination of things that can be squeezed into the confines of a roll is a burger in California—home of such edible fantasies as the chickburger, nutburger, cheeseburger, and tuxburger. And, with the introduction of whale meat on the retail market in place of vanishing beef, the inevitable happened: Whaleburgers have been born in a lunchroom in Eureka. Yes, Eureka is in California.



LAMSON tubes

*Speed specimens of living tissue from
operating room to the laboratory!*

• Many people think of Lamson Tubes only as swift messengers whisking sales slips and change in department stores. Lamson Tubes are infinitely versatile, as is shown by the variety of uses to which they are put.

• For example, in a Southern hospital, specimens of living tissue are sent to the laboratory, and the diagnoses returned while the patient is on the operating table! There are fourteen operating rooms, and even when all work at once, they get split-second service!

• In busy war plants, Lamson Tubes are rushing mail, telegrams, blueprints, small tools, samples, paper work unerringly, instantly. They are achieving spectacular savings in time and messenger cost, slashing elevator and corridor traffic, eliminating confusion, permitting better control of production.

Lamson Corporation

Dept. BW
Syracuse, N. Y.

* There is a place
for Lamson Tubes in
your business. Write
for illustrated pam-
phlets showing Lam-
son Tubes and Lam-
son Conveyors of
work.

Makers of CONVEYORS and PNEUMATIC DISPATCH TUBES

Engineering Design

—Creator of America's Mechanized Might

In war, as well as in peace, the design engineer is the vital link between the inventive mind and the mass-production reality

IT is gratifying and interesting to note that reports of new "secret weapons" not only have reversed their course during the past few months . . . they also have increased in frequency. Once they filled us with dread and misgiving. Today the enemy does the worrying.

Word about the latest new Army weapon reached us as this was being written . . . a 2½ ton truck that performs on water as well as on land with equal efficiency. "The Duck", resembling an overgrown amphibious jeep, is particularly suited to landing operations where docks are lacking. Loaded with 20 fully equipped soldiers or their equivalent in supplies, its propeller runs it ashore. It climbs the beach on its six-wheel drive and continues the trip on land.

This important addition to our "second-front" fighting equipment, coming so closely on the heels of the now famous tank-killing "Bazooka", is one of many history making contributions of American design engineers — the men who transform nebulous ideas into practical realities — the men who make our war machines superior to those of our enemies.

Invasion and eventual victory became a certainty as soon as America's design engineers threw their full effort into the war against aggression. Adapting intricate ordnance designs to mass production, these men developed weapons such as the M-10 destroyer of Rommel's tanks and brought out the new fighting planes and bombers that have won the air superiority that has turned the tide against the Axis. Taking ideas and giving them form, selecting the materials of construction, deciding upon the method of fabrication, adapting the electrical and mechanical parts that power the product, specifying the finish that protects and beautifies it . . . these men are the focal point of American production. Their ingenuity has no parallel. Once they put automobiles on a mass production basis and within the reach of all. Today, after less than three years and with little previous experience in armament design,

they have brought America's war weapons to the highest efficiency . . . surpassing Hitler's weapons despite all the vaunted scientific wizardry of the Germans and their ten year start.

At this point it is well to remember that while Germany's military might is traceable to its superiority in armament, many of the basic technological discoveries (including the airplane and the submarine) are the products of American genius. The Germans always have been aware of the military advantages of technological superiority and have forced its expansion with all their might. They knew that mobility and surprise play a decisive role in modern warfare and their design engineers were kept

busy, with unique intensity, to achieve unprecedented results in fast-moving, hard-hitting fighting equipment. Our own military and industrial engineers did not go into action until it became certain that we would be involved in the conflict. But even before our country actually embarked on its Preparedness Program they were busily engaged in developing the designs of our war equipment. Tanks, planes, guns, ships and hundreds of other apparatus and machines of war were studied. Carefully selected committees of our national engineering societies

This is the thirteenth of a series of editorials appearing monthly in all McGraw-Hill publications, reaching more than one and one-half million readers. They are dedicated to the purpose of telling the part that each industry is playing in the war effort and of informing the public on the magnificent war-production accomplishments of America's industries.

were organized under the leadership of the Army Ordnance Department to serve as advisors and consultants in the development of advanced designs of tanks and other motorized equipment of war. The above mentioned "Duck" and the now famous Sherman tank are just two of the many results of these efforts.

After the Preparedness Program had officially been launched and Congress had made its initial appropriation, it was necessary to create the manufacturing blueprints from which the engines of war could be built. Because the designs of the machines of production, as well as the designs of the products themselves, determine the speed and economy with which anything can be manufactured.

the capacity of our industrial system is dependent, to a considerable extent, upon the ability and ingenuity of American design engineers. Germany's military might was successfully mechanized because Germany, for more than 10 years preceding the war, was riding the wave of a worldwide technological revolution. This revolution was as far-reaching as the advent of the electric motor and the internal combustion engine. It was born of the profusion of inventions and discoveries since the last war. German design engineers took advantage of every one of these.

If we are to defeat our enemies and if we are to continue to play the leading role in the post-war world we must make better use of the new technology than do our enemies. The job is up to American product engineers who already have made tremendous strides in designing the intricate machinery of production and of war equipment. Much remains to be done however.

It has been said that the Germans have not developed one single item that can be classified as basically original, nor are there indications that any so-called "secret weapon" will henceforth be developed by them. Today the Nazis are completely outclassed by the tremendous manpower of engineering brains that is at the disposal of American industry. Although we were faced by the same fundamental problems of shortages in materials, manpower and time, our engineers not only solved these problems quickly and effectively, but they outstripped the enemy by the preponderant weight of talent which we were able to bring to bear upon our problems. As is evidenced by studies of the designs of captured German war equipment, our airplanes are faster, carry heavier loads, have superior protective armor and heavier armament. Our tanks, especially the Shermans, stand unmatched. Our tractor-mounted artillery excels theirs in fighting power. Our automotive vehicles are the envy of the world. Our battleships are supreme. Our signal and detection devices are frustrating all of our enemies' attempts to dominate the seas.

And as we approach the end of the conflict, the pattern of which already has been set, the forces that converted American industry from peace to war-production will again be brought into play, and the product engineer will continue to be the fulcrum. Our post-war industry will grow from his blueprint. Nor will his job be any less urgent, any less responsible, any less sweeping in its effects than were his efforts during the war-preparedness program.

Since the cessation of the manufacture of peace-time goods, many new materials and production techniques have been developed. Plastics, synthetic rubber and magnesium in the field of materials were relatively new and restricted in their uses when war came. So were powder metallurgy, induction heating, electrostatic heating, adhesives for joining metals and compressed resin-impregnated wood. The new possibilities in product design created by the electronic devices and applications developed during the war period virtually stun the imagination and the "atomic revolution"

promises to change the entire pattern of manufacturing operations.

Never before has there been so much speculation about the future as there is today. Looking forward, who can doubt our limitless capacity to continue our industrial world leadership?

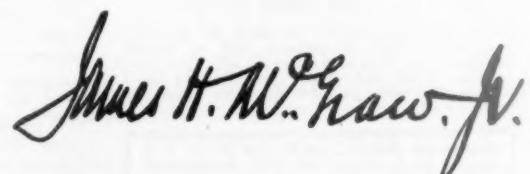
While no one can predict developments in product design in the post-war period, certain it is that they will be so vastly different and so far superior to existing designs that they will obsolete most products as we know them today. With engines of vastly superior metals, designed to burn 100 octane gasoline and built to a precision ten times greater than that of pre-war engines, our post-war automobiles will give from 40 to 60 miles to the gallon. Tires will last from forty to fifty thousand miles. The comfort and smoothness with which these cars of tomorrow will glide along are undreamed of today. Polaroid windshields will eliminate the glare of oncoming headlights and the driver will need to give but scant attention to the manipulation of his simplified gear shifts.

According to no less an authority than Igor Sikorsky, we stand on the threshold of a new air age in which the helicopter will contribute to the greatest prosperity we have ever known.

Prophecies are hard to make at a time like this but speedy house building seems to be a certainty in the world of tomorrow. Air conditioning, new methods of heating, humidifying and drying, promise to be necessities in the post-war home. Vacuum sweepers will be much lighter, less noisy and easier to manipulate. Washing-machines will be fully automatic and practically free of noise and vibration. Not only will our homes and most of the furnishings be of radically new design, but so will the factories and machines that produce them.

Only one factor can prevent the fulfillment of the dream of the product designer. His job is not accomplished over night. To convert sound ideas into production blueprints involves a great deal of time and money. The building of test models is an expensive and tedious procedure. An abundance of seed money is required to perfect the product, to develop mass-production methods and to bring it to fruition as a finished saleable product.

It is the patriotic duty of every industrial leader to hasten these developments so that the material benefits created by them may speed our progress along the road of abundance.

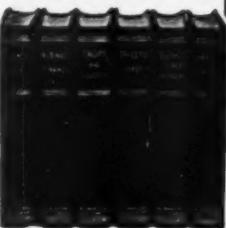


President, McGraw-Hill Publishing Company, Inc.

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bigger responsibilities,
as war needs cut into
business
personnel?

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tional Hardwood Lumber Assn.'s grade rule book, Jan. 1, 1943, edition. (Amendment 7, Regulation 155.)

Wooden Barrels

"Tight" wooden barrels—stout casks of white oak, chestnut oak, red oak, gum, ash, or elm cooperage stock, to hold aging whisky, oil products, and other liquids—have been brought under dollar-and-cents maximum prices by OPA. (Later action is expected to cover "slack" barrels.) Because of the increase in demand for lower grade barrels for shipping supplies abroad, and because of the drop in demand for the highest grade, used primarily to hold aging whisky, maximums are increased for the lower grades and lowered for the higher grades. (Regulation 424.)

Penicillin

Penicillin, the new chemotherapeutic agent found, in some instances, to be more potent than sulfonamides (BW-Jun. 5 '43, p52), has been brought under allocation control as of July 16 by a WPB ruling covering the drug in any form. Retail pharmacists, hospitals, and physicians are not considered suppliers for the purposes of this order. (Allocation Order M-338.)

Fluorspar

To boost production and to compensate for recent wage increases approved by the National War Labor Board, maximum prices for all grades of fluorspar have been increased by about \$5.00 a ton, for a 60-day period effective July 1. Thereafter, the new maximums may be charged for higher grades of metallurgical fluorspar with an effective calcium fluoride content of more than 60% only with the approval of WPB. (Revised Maximum Price Regulation 126.)

Cutlery

Increased production of cutting tools and stepped-up output of kitchen cutlery are expected from a new WPB order covering a wide range of cutting instruments for trade and household use. Silver-plated flatware continues under the old order, L-140, and lines prohibited under that order are still banned. The amended ruling reduces the number of patterns, specifies lengths of blades of some knives, prescribes the hardness of knife blades and sharpening steels, limits packaging, and restricts distribution for advertising purposes. For professional food processing cutlery, a manufacturer is allowed in each calendar quarter 225%, instead of the 100% formerly permitted, of the total steel used for the same patterns during the average quarter of the base period—the year ended June 30, 1941. Metal for professional kitchen cutlery has been stepped up from 60% of the base period rate to 75%, and for household table cutlery from 35% to 50% of the base period rate. (Order L-140-a.)

Aluminum Ingot

Ceilings have been established for primary grade aluminum ingot—a new grade made by blending 50% to 70% of scrap with primary metal—as follows: for Nos. 142 and 355 primary grade ingots, 15¢ per pound;

for No. 195 ingot, 15¢ per pound. WPB is now allocating virgin aluminum to smelters for blending in the production of these grades; the maximum prices set up are at the same levels as those for the primary alloys. The cost to the smelter will be increased, however, since the primary pig costs 3¢ per pound more than the highest grade scrap.

For secondary ingot, the old higher maximum prices in effect June 23, 1943, may be applied until Aug. 1 to ingot produced from scrap purchased between May 31 and June 23 of this year as well as from scrap held in inventory on June 23. (Amendment 1, Regulation 2.)

Display Printing

A further saving of paper stocks by eliminating one third of the gross paper and paperboard used in the manufacture of displays has been effected by a WPB order that allows a manufacturer the use in a calendar quarter of two-thirds of the amount of paper for displays that he used in the corresponding quarter of 1941. A leeway of 15% for each quarter is allowed, if it is compensated for by adjustments in the quota for the following quarter. (Order L-294.)

Other Priority Actions

To divert as much animal and vegetable protein as possible into production of live-stock and poultry feeds, pet food manufacture has been brought under control on a yearly, instead of a half-yearly, basis, by an order that alters the definition of pet foods to include "processed meat products" for animal consumption (Food Distribution Order 58). . . . Four new items in the list of petroleum products for which preference ratings may not be used in obtaining supplies, under Preference Rating Exclusion Order M-201, as amended, are: naphtha, petroleum insecticide bases, petroleum wax, and petrolatum. . . . Effective July 8, production of domestic food dehydrators is brought under control by a ruling requiring prospective manufacturers to obtain the authorization of WPB for such production (Order L-308). . . . To insure sufficient supplies for military and civilian needs, the catching and delivery of pilchards, or California sardines, on the West Coast has been placed under control.

Other Price Actions

Amendment 1, MPR 365, increases maximum prices for distributors of wood matches from 115% of the actual prices charged by the manufacturer on Apr. 14, 1943, to 120%, on sales of less-than-case quantities, while continuing the 115% rate for deliveries of full cases. . . . Wholesalers' and retailers' prices for fountain syringes have been placed under dollar-and-cents ceilings, at substantially the Dec. 1, 1941, levels, by OPA's Amendment 9, Regulation 300, and Amendment 7, Regulation 301. . . . Rollbacks of about 25% in the price of lettuce and about 50% in the price of cabbage have been effected, as of July 20, by OPA regulation 426, which provides a pattern for OPA field offices in establishing community cents-per-pound ceilings for fresh fruits and vegetables as they are brought under this control.

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Fashion note: "Smart homes will wear blankets"

ANOTHER NATIONAL GYPSUM CONTRIBUTION TO BETTER LIVING



With a winter of fuel shortage just ahead, smart houses are shopping for "blankets"! It's easy too. Gold Bond-Gimco Rock Wool, blown into the walls and roof of your home, gives you a fireproof blanket that cuts heating costs as much as 30%...soon pays for itself!



Heat rises—and so do fuel costs when you let it escape through the roof! Gold Bond-Gimco Rock Wool batts or "pillows" tucked snugly between attic rafters or ceiling joists is a quick way to stop much of this loss for very little money. Keeps heat out in Summer also!



Today Gold Bond Rock Wool like other National Gypsum products performs many major wartime jobs...lining food ships, refrigerator cars, supply depots, besides saving fuel in thousands of industrial plants. But there's plenty for home insulation. Ask your Gold Bond dealer.

4

What will postwar homes be like? For the first time even low-cost homes will be more comfortable, thanks to Gold Bond Rock Wool research. And there are over 150 other Gold Bond materials ready to build better homes, after victory, with the War Bonds you buy today! National Gypsum Company, Buffalo, N.Y.

WARTIME PRODUCTS OF NATIONAL GYPSUM: METAL LANDING MATS FOR PORTABLE AIRFIELDS; INSULATION TO KEEP OVERSEAS FOOD SHIPMENTS FRESH; GOLD BOND GYPSUM BUILDING BOARDS TO REPLACE SCARCE LUMBER; METAL CASTING PLASTER TO ELIMINATE FINISH MACHINING FROM DELICATE NON-FERROUS CASTINGS; LIME FOR THE MANUFACTURE OF STEEL AND MAGNESIUM.

MARKETING



T
WEBSTER ELECTRIC
Teletalk
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Speeds War Orders in Small Plants

No matter what the size of your plant, if you are engaged in war work you undoubtedly have the proper priority to take advantage of a Teletalk Paging System and the time-saving afforded by its use.

Graybar houses, located in 86 key cities, are ready and anxious to show you how such a system can pay for itself in your plant by making it possible to have instant contact with everyone in it.

Graybar Specialists can give you the information of priority, appraise your needs and recommend just the proper installation best suited to your individual requirements. They will supervise its installation without any inconvenience to the operation of your business.

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More for the Table

Supplies of coffee, sugar, and cocoa improving with successes against U-boat, but rationing is likely to remain.

"With the improvement in the war against the submarine we may even be able soon to remove sugar and possibly later coffee from the ration list."

President Roosevelt's optimistic prediction—a footnote in his subsidy-veto message—points up the curious fact that supplies of imported commodities are loosening up just when the shortage of domestic foodstuffs is really beginning to pinch. Three years ago, opinion in Washington and the grass roots alike was that we might suffer some pretty acute shortages of imported foods but we would never go hungry for lack of anything raised at home.

• **Supplies Surpass Hopes**—Sugar and coffee are two examples of what the lull in submarine warfare means to the U. S. dinner table; cocoa, which is not rationed at the ultimate consumer's level, is another. Present and prospective supplies of all three commodities are away over what anybody even hoped for six months ago.

Whether coffee and sugar will shake

loose from rationing is something else again. Present supplies of both commodities are almost enough to support normal distribution. But even if our shipping continues to evade the U-boats, more vital cargoes will be waiting.

• **Rationing to Stay**—Unless the supply situation is permanently better, Washington figures it's a good idea to keep the rationing machinery oiled. If rationing of a commodity were once abandoned, the process would start from scratch if rationing had to be resumed.

The present outlook is that rationing of sugar and coffee will continue, unless the President finds it politically expedient to abandon it. But rationing or no, John Q. Public can now order a second cup of coffee and use a free hand with the sugar. (Whether he gets a second cup is something else; the National Restaurant Assn. is advising members to "strengthen the coffee somewhere near normal again" rather than dole out the second cup.)

• **Per Capita Demand Topped**—Coffee rations, now set at one pound for every eligible consumer every three weeks, entitle every adult to 17 lb. of coffee a year. This compares with a 13-lb. rate of consumption before 1941 on a flat per capita basis, including children.

Green coffee stocks in the hands of importers, jobbers, and roasters are now above the prerationing norm. From a low of 1,493,000 bags at the end of last



MARKET RUSH

There was beef for the armed forces on packers' meat hooks last week—but for civilians, little or none. Farmers were holding cattle off the market in the hope that Congress would get them higher prices. This week, it

was different. Better prices weren't forthcoming, and Corn Belt feeders, discouraged by inability to get corn, rushed animals to the slaughterhouses. They also were trying to get their beef to market ahead of grass-fed animals being sent in from drying ranges in the Southwest.



Call FOR JOE . . . DON'T RUN AFTER HIM!

War orders can't wait no matter whether there is one smokestack on your factory or a dozen.

When you need to talk to Joe or Bob and can't find them quickly, the time lost is just as important as in the mile square plants where they may be called by more elaborate titles.

Teletalk Paging Systems with six speaker outlets are speeding war work in small shops just as effectively as in the great plants where larger systems are needed.

How many minutes do you lose every day getting information on orders, checking shipments or stock on hand . . . just hunting, waiting for the man who has the information you want?

With Teletalk Paging System you just flick a key,

ask for the man you want—presto, he picks up his phone and answers . . . no waiting, no need to send a messenger . . . just talk. Time saved by the magic of Teletalk Paging Systems pays its cost many times over in a very short time.

War orders undoubtedly give you the proper priority to allow you to put Teletalk Paging into your business NOW. Check this with your local Teletalk distributor. In most key cities they are listed in the classified telephone directory as shown below. If you can't find him in your phone book, let us know and we will see that you are properly contacted.

Find out about Teletalk Communication Systems, too. They are the modern answer to quick inter-office communication.



WEBSTER ELECTRIC COMPANY, Racine, Wisconsin, U. S. A., Established 1909.
Export Dept.: 100 Varick St., New York City. Cable Address: "ARLAB" New York City.

BUY WAR BONDS

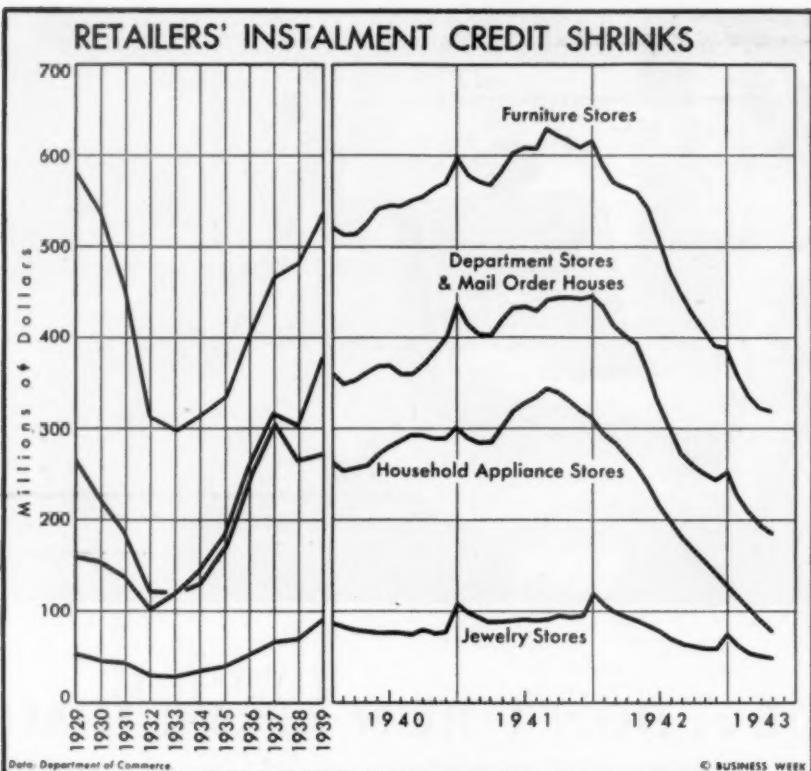
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Illustrated at right, Model 1012 Teletalk Amplified Paging Unit with facilities for connecting 12 speakers. Handsome solid walnut cabinet.

WEBSTER ELECTRIC

"Where Quality is a Responsibility and Fair Dealing an Obligation"



Users of instalment credit have all been hit by the Federal Reserve Board's Credit Regulation W, which has imposed maximum payment periods and minimum down payments since September, 1941. Hardest hit were automobile dealers (BW—Jun.

1943, p42)—but more because of a merchandise shortage than the regulation; so with household appliances and furniture. The drop in jewelers' credit has been least precipitous, for they are just beginning to experience shortages at the retail level.

year, they have jumped to 3,334,000 bags. Most of the increase has been in the past three months; stocks at the end of March were 1,965,000 bags. Hence the liberal ration for consumers and a fat bonus (20% of the July-August allotment) to institutional users and commercial eating places.

• **Sugar in Cuban Warehouses**—The sugar picture isn't so clear. There are three million tons of sugar in Cuban warehouses earmarked for the U. S., the great bulk of it owned by the Commodity Credit Corp. We have brought in over a million tons of Cuban sugar already this year, better than half our normal annual imports from the island. A half million tons above planned imports will almost certainly be ferried over to make up for the drastic deficiency in the domestic sugar beet crop.

The big question—aside from shipping—is how much sugar it will be necessary to divert from the American sugar bowl. Industrial alcohol may take more. Bakers, confectioners, and ice cream manufacturers are now getting cane sugar allotments to compensate them for the shortage of corn syrup. Allotments for home canning have been

liberalized, but OPA is still afraid to change the basic ration. So, although the President indicated that sugar probably would come out from under rationing sooner than coffee, it seems to be still in tighter supply.

Incidentally, OPA surveys show that consumers feel the lack of sugar more acutely than the lack of coffee. An estimated 10% of coffee stamps have gone unused; only 5% of sugar stamps.

• **Cocoa Imports Off**—Cocoa likewise isn't in as good a supply situation as coffee, but it is vastly improved. Conservative estimates are that U. S. cocoa imports will total 245,000 tons this year, against normal imports of 320,000 tons. About 100,000 tons should come from Brazil, 86,000 tons from the African Gold Coast and Ivory Coast. The rest is mostly flavoring cocoas from the Caribbean.

The North African push hasn't helped African imports much because the cocoa comes from too far south. But imports have come up with the general improvement in shipping.

• **Normal Backlog**—Though the present supply is still short of ideal, it has come a long way. By this time last year, we

had brought in only 800,000 bags of cocoa. This year, the figure is 2,100,000 bags. We are now up to a normal six or seven months' backlog on cocoa; at the end of March we had supplies for only three and a half months. The only thing that got us over the hump were abnormally high imports in 1941.

The Food Distribution Adminstration has raised the grinding quota on cocoa from 60% to 70% of the 1941 rate. If cocoa processing weren't limited by the supply of sugar, FDA might raise it even further.

Have Another Cup

Coffee marketers set out to counteract advertising that makes civilian use of beverage seem unpatriotic.

Still bedeviled by rationing and shipping problems—no matter how much easier they have become (page 80)—the coffee industry figures it has enough headaches without contending with discriminatory advertising. Accordingly, the Pan-American Coffee Bureau and the National Coffee Assn. are serving notice this week on concerns that have sponsored advertisements "which lend credence to misapprehensions regarding the coffee situation."

• **Armed Forces Come First**—No. 1 false reference of nonindustry advertisers is the implication that civilian abstinence will give the boys at the front more coffee, whereas the industry points out that the armed forces always have had first call on available supplies of coffee—and rationing divides what's left among civilians.

Presumably such misrepresentation was not made maliciously, but the trade fears that innocent intentions won't protect it from losing business if consumers become convinced that their part in the war effort includes giving up morning coffee.

• **Citing the Offenders**—Typical of ads arousing trade resentment was a recent conservation appeal by the magazine publishers of America, asking "Which comes first, your second helping or our second front?" and including coffee on the list of items to be resisted. Similarly, the New York Central Railroad, advertising in metropolitan papers, titled copy "Have not two cups of coffee every day, but one or none."

More pointed anticoffee advertising comes from vintners who suggest to coffee lovers that they try a glass of wine instead of that after dinner demi-tasse.

• **Drink Up**—The industry's own advertising, currently pegged to the shortened coffee ration period, reassures consumers that supplies have been increased without hampering the war effort.

Comes the Pinch

New catalogs of the mail order houses reflect shortages in hard lines and housewares; sales curves flattening.

How shortages hamper even big-time merchandisers was pointed up this week as mail order houses announced their half-yearly sales volumes and dropped their fall and winter catalogs into the mail.

Although Montgomery Ward Co.'s \$52,140,023 June sales were 7.56% over June, 1942, and its February-June volume was up 3.93% over the same period last year, other houses showed smaller increases or actual losses.

• **Sears Tops June Volumes**—Sears, Roebuck & Co. topped its 1942 monthly volume for the first time in June, when its \$69,144,691 sales were 0.03% over the previous June. Sears' February-June volume was 5.1% less than last year. Spiegel's June sales volume dropped 32.3% (from the previous year), and its February-June volume was 31.4% less than last year. Chicago Mail Order Co. has not yet released its sales figures.

But customers will be more concerned with new shortages in such lines as furniture, sheeting, draperies, and wool carpeting, and dwindling supplies of such hard lines as plumbing supplies, stoves, and farm equipment. Sears, founded as a mail order watch business, omitted watches and clocks from its catalog for the first time since 1886.

• **Book Club Included**—Outstanding among new merchandise replacing war casualties is Sears' People's Book Club (BW-Jun.26'43,p86) and magazine subscription section. Other new Sears' items include synthetic rubber tires (also offered by Ward's), linoleum cut to the exact size and shape of the customer's floor space, and diamond rings as high as \$1,950. Butter, meat, and coffee stretchers, tried out in Sears' summer flyer, have won a place in the general catalog.

Chicago Mail Order Co. prefixed the name "Alden"—long a trade name for its top-quality lines—to its new catalog, in anticipation of its own retail outlets soon to be opened as Alden stores. To eke out skimpy supplies of critical goods, the company added roofing materials, vitamins, glassware, and health and accident insurance. Besides expanding its existing sections on paints, shrubbery, and chicks, Ward's catalog includes more nationally advertised brands than ever before, particularly in paints. Merchandise shortages cut Spiegel's catalog to 88 pages less than last year.

• **Unrationed Footwear Featured**—There's even less "big ticket" merchandise in the catalogs than a year ago,

This pig is in a hurry to get in to get fat enough to make good bacon for soldiers and war workers. His owner keeps him on sanitary concrete feeding floors so he won't get hog diseases or tramp feed in the mud—so he can get to market quicker.



Portrait of a Pig in a hurry—

Production of the maximum amount of pork with a minimum amount of feed is a military necessity.

A sure way to accomplish this is the confinement method of raising hogs on concrete floors from birth to market. This saves more hogs per litter, produces pork faster and with less feed per pound of gain.

Concrete feeding floors can be built quickly with local labor requiring no critical materials and a minimum of transportation.

Thousands of concrete feeding floors for hogs and cattle have been built. Thousands more must be built as quickly as possible to enable farmers to produce more meat with less feed.

In other fields we have special design and construction data which will help engineers, architects and contractors in getting maximum war service from concrete construction.

Concrete saves critical material and vitally needed transportation in

building military airports, hangars and shops, war houses and factories, arsenals and warehouses and needed sewerage, drainage and water supply systems. Let our staff of trained technicians assist you with your concrete design and construction problems.

P O R T L A N D C E M E N T A S S O C I A T I O N
Dept. A7c-12, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

★ BUY MORE WAR BONDS ★



Muehlhausen Springs are used by majority of prominent brake manufacturers.

Offhand, you wouldn't think that a fighting plane could have brake failure at 20,000 feet. But it is quite possible if brake control springs are improperly designed. For, in a few minutes' time, working parts can be subjected to extreme variations—from tropical heat of 120° to paralyzing cold of 70° below—from pressure at sea level to the rarefied atmospheres of ceiling heights.

In designing springs for aircraft applications, Muehlhausen has successfully solved these problems. And, for this reason alone, one prominent plane manufacturer (name on request) now specifies ONLY Muehlhausen Springs for the brake controls on its combat planes.

MUEHLHAUSEN SPRING CORPORATION
Division of Standard Steel Spring Company
775 Michigan Avenue, Logansport, Indiana



and the emphasis on quality clothing for women and children is greater. Sears, for example, added 24 pages to its women's wear section, dropped the same number from the furniture department. Bedroom slippers are always featured in the fall and winter books because they double as Christmas merchandise; this year, along with play shoes, they're getting more attention than ever as unrationed footwear. All catalogs have full directions for ordering rationed and priority merchandise, and order blanks provide space for attaching ration stamps.

Ward's new limitation of C.O.D. shipments to orders for \$2 or more was prompted by a deluge of C.O.D. orders during the past few months. Aware that some merchandise is hard to get, customers apparently order the same item, C.O.D., from several mail order houses, then accept the first shipment.

• **Sorry, Not Available**—Despite last-minute deletions and substitutions, the catalogs carry some items, branded "Sorry, Not Available," which slipped out of the picture while catalogs were on the press.

FOR TRAVELING SEAFOOD

When WPB cracked down on the fresh fish industry by taking away its supply of steel and tin for the making of containers, fish packers began casting about for a carton suitable for shipping fresh fish and fillets. Edmund L. Dunn, president of the Boston Fish Pier Exchange, found the solution in a tough, moisture-proof, watertight paper carton (right) made by the National Folding Box Co., New Haven, Conn. Being distributed along the Eastern Seaboard, the boxes, packed in ice-filled wooden cases (below), ship well.

Canned to Order

Burbank firm will pack the products of your V-garden at 10¢ or 11¢ a pound; will not can meats or fish.

Under Rationing Order 13, custom cannery service for the public has been started by the McKeon Canning Co., Burbank, Calif. (25 Graham Place), first commercial cannery in that region to undertake what will be an experimental contribution to the war. The company expects to make no money, to learn as it goes along, to drop the service if the volume of food brought in does not warrant operation.

• **Cost of Cans Included**—Fruits will be packed in No. 2½ tins, vegetables in No. 2, at 10¢ and 11¢ per pound, respectively, minimum amount 10 lb. This includes the cost of cans, furnished under the rationing order.

The customer will get back his iden-



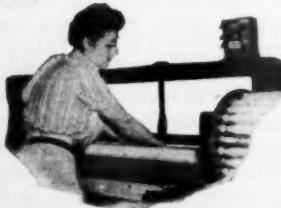
Somewhere South of

SHANGRI-LA

An American fighting plane glides to a landing — somewhere south of Shangri-la. It taxis to the edge of a clearing and is rolled in between the trees. Piles of sandbags form a barricade against bomb fragments and sputtering incendiaries. Dexterous camoufleurs conceal it from enemies who prowl the skies. This is repeated thousands of times at the temporary airfields forming the outposts of Democracy.

Those sandbags may have been made by Bemis, for many of our 23 factories and mills with over 8,000 employees, have produced millions of them since Pearl Harbor. And the camouflage may have included Bemis burlap or cotton goods. Millions of yards of these materials, intended for bags to serve peacetime commerce, have gone to war with our Army's camouflage experts.

Although we are busy on this and other special war work, we still continue to supply bags for essential agricultural and industrial products in increasing quantities. And we are ready now to help in developing more serviceable, more saleable packages for peace times to follow victory. If you have a packaging problem . . . present or future . . . we shall appreciate the privilege of talking it over with you.



CONTRIBUTING TO VICTORY

Making cloth for Bemis Bags? Yes . . . but Mrs. Maxine Whittaker, weaver in Bemis' Indianapolis plant, is doing more than that. She is helping weave the fabric of victory! For many of the bags made from the cloth that flows from her loom will carry food to America's fighting men . . . perhaps to her soldier husband, somewhere in the South Pacific.

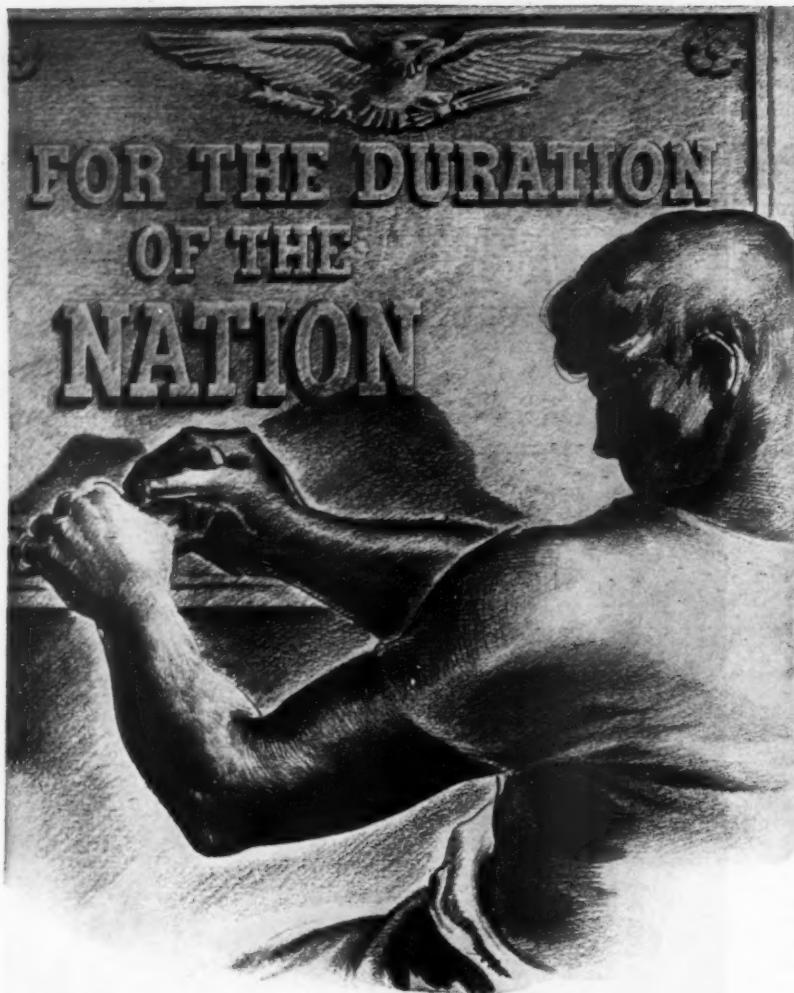


Bemis Bro. Bag Co.

GENERAL OFFICES: 403 POPLAR STREET • ST. LOUIS, MO.



Buy more
War Bonds
★



When this company was founded in 1870, Michaels resolved that every product should be the best that human ingenuity could produce; that employee and employer relationships must be built upon the firm foundation of mutual respect and consideration. These policies have been maintained faithfully. Only in America could a business like this have found such limitless opportunities. Only here does the future beckon with undimmed promise of greater achievement. Today, as in the past three-quarters of a century, the facilities of The Michaels Art Bronze Company are permanently and unreservedly enlisted for the duration of the nation.



The MICHAELS ART BRONZE CO., Inc. COVINGTON, KENTUCKY

Manufacturers of many products in Bronze, Aluminum and other Metals

tical beans or apricots, processed under a code number. Tomatoes have to go through the common scalding and peeling equipment, will come back as the weight of raw material delivered. McKeon packs tomatoes commercially, and is equipped for that, but other products will have to be prepared by hand.

• **Two Days a Week**—Custom canning is done only Thursdays and Fridays. Customers are asked to deliver material between 6:30 a.m. and 10 a.m., to facilitate scheduling of the day's work. The cannery is, of course, short of labor. No meats, fish, or animal products will be canned.

Dime Swank

Merchandise shortages lie behind Woolworth's expensive wares, but nickels and dimes still account for the volume.

Patrons of the swankier outlets of F. W. Woolworth & Co. are so accustomed to air conditioning, fluorescent lighting, delivery service, and escalators that they take additional airs in stride. Thus an unobtrusive green leather placard now informing shoppers at the art goods counter of one of the better five-and-ten-cent stores that "Our interior decorator will gladly help you with your selection" goes practically unnoticed—except by ladies buying \$4.98 picture frames.

• **Nothing over 5¢**—It was 65 years ago when F. W. Woolworth draped with red calico one table in a general store and quickly sold its merchandise under the sign, "Any Article 5¢." Not until 1932 did the stores he founded break through their 10¢ price ceiling by adopting a 20¢ top. Three years later (BW—Nov. 2 '35, p23), executives set a 40¢ limit to compete with other variety chains selling 50¢ and even dollar merchandise.

Present dramatic expansion in the high-price lines, however, is less properly attributed to manifest destiny than to general shortages and the disappearance of quantities of rubber and metal goods.

• **To Keep Outlets Stocked**—The all-wool sweaters, sterling silver jewelry, genuine leather handbags and gloves, as well as better grades of hosiery, lingerie, books, Pyrex ware, slacks, picture frames and toys (priced at figures like \$1.98, \$2.98, \$3.98, and \$4.98) on Woolworth counters today are more the result of the company's efforts to keep 2,015 outlets stocked with some 35,000 items than an attempt to upgrade for prestige.

This method of replacing hard-to-get lines, together with wood and glass substitutes for missing merchandise, has more than offset losses. Sales for the



AGE BEFORE DUTY..

When properly "aged" or seasoned, fluorescent lamps remain more constant than daylight throughout their entire life. This is important in lamps that illuminate precision work in war plants.

At Sylvania there is a special "age before duty" machine that lights and re-lights fluorescent lamps for carefully regulated time intervals. This mellowing process prepares all the elements that make up a lamp for a life of uni-

form light output. It is also a final precaution taken to weed out an occasional substandard lamp which may have filtered through dozens of painstaking inspections.

That is why a Sylvania Fluorescent Lamp can be counted on for consistent light output every minute of its life.

"Aging" is one of many Sylvania methods of safeguarding fluorescent quality. Lamp efficiency is perfected and main-

tained at its highest peak through continual research by Sylvania engineers who have years of specialized experience with incandescent lamps, radio tubes, ultra-violet lamps and other electronic devices.

Today Sylvania's research is providing the best and most economical lighting known for war industry. When victory is won, the same independent research will bring the advantages of fluorescent lighting to postwar homes.

For more light output, longer life and uniform color, specify Sylvania Fluorescent Lamps in new installations and replacements.

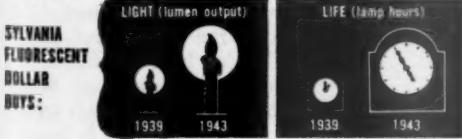
SYLVANIA
ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation
Salem, Mass.

INCANDESCENT LAMPS, FLUORESCENT
LAMPS, FIXTURES AND ACCESSORIES,
RADIO TUBES, CATHODE RAY TUBES,
ELECTRONIC DEVICES

FAR MORE LIGHT AND LIFE FOR YOUR MONEY

Compared with 1939, a dollar invested today in Sylvania Fluorescent Lamps buys more than four times the lumen output and approximately five times the lamp life.



(Based on decreasing price and increasing efficiency and durability of Sylvania 40-Watt White Fluorescent Lamp)

Even on existing circuits, a change-over to fluorescent-Sylvania Lamps, Fixtures and Accessories—will probably more than double the light you get for the same wattage.





**✓ Check these important
Handling Advantages of the**

FORK TRUCK "TRACKLESS TRAIN" System

Every executive concerned with materials movement will profit from a study of the many advantages offered by the Fork Truck "Trackless Train" System. A few of these advantages are listed below.

- ✓ Faster handling
- ✓ Movement of larger volume
- ✓ Maximum utilization of equipment
- ✓ Lower operating cost

- ✓ Highest maneuverability
- ✓ Minimum rehandling
- ✓ Full utilization of air rights
- ✓ Adaptable to the handling of most types of materials
- ✓ Greater handling safety
- ✓ Maximum flexibility

For the complete story on Mercury Trucks, Tractors and Trailers, request Bulletin 230.

MERCURY

The Mercury Manufacturing Company

TRACTORS
TRAILERS
LIFT TRUCKS

4146 South Halsted Street, Chicago, Illinois

WOOD

PLASTIC

GLASS

MATERIAL does not matter

—when it comes to MARKING

TEXTILES



Putting your name or trade mark on articles of post war production may, because of material changes, bring to you new problems. They are not problems to us because our equipment is now being used to mark, identify or number, plain or in multiple colors — war production items of plastics, metals, fabrics, paper, and many other materials.

Assembly is facilitated by small part marking, sources are identified by code or other marking, step processing keyed, and in many other ways Markem equipment, synchronized to automatic speed handling, is serving on the war production line.

Markem equipment is versatile and adaptable to frequent and quick changes. Material, surface or contour present no insurmountable difficulties. Markem equipment is engineered to special needs and Markem service includes the laboratory development of inks to meet every requirement.

If, for present or future use, you have a marking problem, put it up to MARKEM. Ask for Bulletin B7.



METALS



first five months of this year ran 9% ahead of last year when stores rolled up a record total of \$423,220,598.73 compared with \$377,148,059.27 for 1941.

• Example in Luggage—But upgrading is no panacea for circumventing the nation's merchandise shortages, and Woolworth's, like the rest of America's retailers, has found that high prices don't make goods immune from the production squeeze. Classic example is luggage, which has constituted one of the five-and-ten's classiest departments for the last two Christmas seasons. A wide variety of styles priced up to \$5 now is reduced to furlough bags selling for \$2.98, thanks to the War Production Board's limitation order prohibiting manufacture of leather luggage and reducing all producers to eight basic styles (BW-May 8 '43, p86).

Buyers insist that there has been no indiscriminate rush to fill up holes just to escape empty counters—still a long way off. Rather, they consider their particular wartime additions of expensive goods logical items for postwar marketing and probable expansion. At the same time, they have at no time lost sight of the fact that small change is still the backbone of the variety store business.

• Nickels Bring Traffic—Just how much of total dollar volume is accounted for by five and ten cent items is a company secret, but store managers declare that it is the nickel and dime business that brings in the traffic; and furthermore, that it still accounts for by far the greatest number of sales. Cosmetics and toilet articles, for example, which at one time appeared on counters in sample sizes only, now are found in large economy packages, but most customers stick to the midget sizes.

Perhaps the most spectacular additions have come in Woolworth's books. Books achieved department status last fall (BW-Sep. 26 '42, p51) when the company introduced the New Home Library—a new series of Triangle books at 69¢. Following these, a new group of travel, music, and art books appeared. Then dollar editions of best-sellers such as Franz Werfel's Song of Bernadette, The Robe by Lloyd Douglas, Tolstoy's War and Peace, Guadalcanal Diary, and Burma Road, complete with photographic illustrations. Best seller in this group is the wartime edition of the American Woman's Cook Book.

• Volume Still in 10¢ Books—All these are from the presses of Doubleday, Doran & Co., Inc., which now is assembling original editions of fiction and nonfiction of all publishers to sell next month for \$3.89 or less in larger Woolworth outlets. By and large the company is pleased with the sale of literature, but characteristically, volume in the new books does not touch the business it has done for years in 10¢ children's books.

PRECISION BUILT PRODUCTION MACHINES FOR INDUSTRIAL MARKING



How to get **MORE WAR SERVICE** from **YOUR BELTING & HOSE**

Not only the rubber shortage itself, but inexperienced manpower, excessive strain upon production and new components of rubber, combine to make it imperative that your mechanical rubber goods last longer, avoid breakdowns, save on power and operating costs.

Since 1878, BWH has pioneered in the development, manufacture, operation and care of mechanical rubber goods. Today, the BWH plant is one of the largest in the world devoted exclusively to the manufacture of mechanical rubber goods.

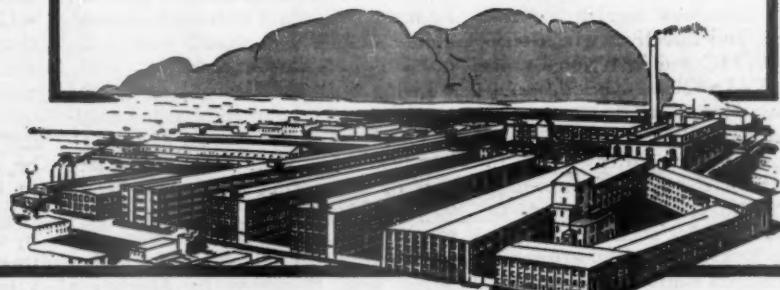
And today, BWH continues and develops its longtime cooperative program of selling its products through the industrial distributor.

A leadership of 65 years—in peacetime and wartime service—demonstrates that BWH knows rubber—crude, reclaimed and synthetic.

Ask BWH how to get more war service from your belting and hose.

BOSTON WOVEN HOSE & RUBBER CO. • CAMBRIDGE, MASS.

BOSTON WOVEN HOSE
BWH
BUILT WITH HONOR



**Insure Victory—Buy More
War Bonds and Stamps**

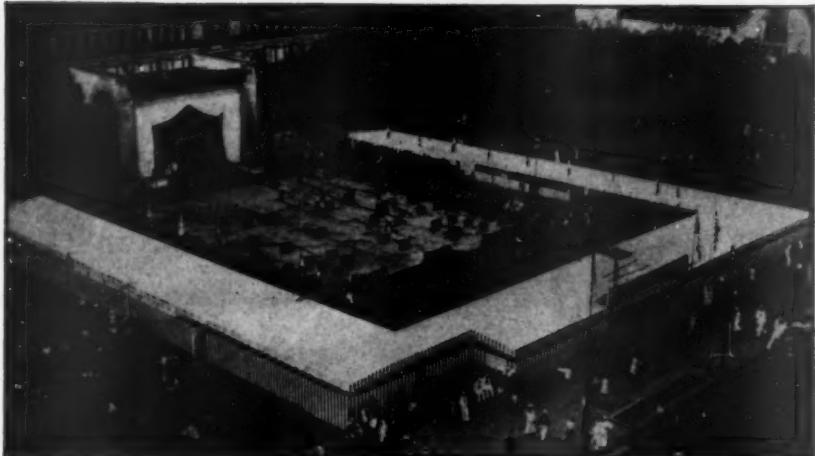
of the World's Largest Manufacturers of Belting, Hose, Tape, Packings & other Mechanical Rubber Goods.

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LABOR OF LOVE

Hatchets were temporarily buried when members of C.I.O. and A.F.L. building trade unions joined forces in the construction of Philadelphia's new U.S.O.-Labor Canteen. The voluntary workers disregarded union codes as plumbers became carpenters

and painters did cement work. The city contributed \$5,000 for materials. The outdoor canteen, with concrete dance floor and table accommodations for 1,000, was made possible by the local war chest's donation of \$16,000. Members of hotel and waiter unions contribute their services by manning the refreshment bars.

LABOR

Want a New Job?

Broad principles governing shifts to more lucrative work are propounded by appeals body in its first four decisions.

A group of four cases involving the right of employees to change jobs was decided last week by the national management-labor appeals committee of the War Manpower Commission. These were the first questions to be referred to what is, in effect, the court of last appeal in manpower issues. It operates as the capstone in the appeals structure created by WMC to hear complaints about the numerous regulations, rulings, orders, and directives which emanate from WMC and its regional units (BW-Jun. 5 '43, p82).

• **One Basic Issue**—These first cases to be appealed over local and regional rulings all concerned employees' rights to statements of availability, without which job transfers in essential industries or in tight labor market areas are not permitted.

In one case, an employee sought such a statement of availability in order to seek employment at a rate of pay which would enable him to earn in 48 hours the same amount that he was earning in

a 60-hour week. His purpose, he maintained, was to get additional time to operate his farm.

• **Principle Enunciated**—The national committee denied his appeal and laid down the following principle: An employee must have a definite job offer before a statement of availability will be issued on the ground that he can be employed at a higher skill.

In another case, a skilled craftsman in an essential plant had an opportunity to transfer to an executive position at another essential plant. His employer refused him a certificate of availability on the grounds that the employee did not seem to be qualified for executive work. The committee ruled in favor of the transfer and held that, where an employee has an offer of a higher position, he must be given a statement of availability despite his present employer's opinion of his fitness.

• **Living Standard Recognized**—In the third case, an employee requested transfer privileges on the ground of compelling personal reasons. He cited the fact that he was unable to make a living wage on his job. His employer refused to give him a certificate of availability, maintaining that job changes for higher wages were forbidden by Manpower Commission regulations under the hold-the-line order. The committee ruled against the employer, holding that take-home pay of an amount insufficient to

maintain a man and his family at a decent standard of living is ground for permission to change jobs.

In the fourth case, an employee who resided in one city and worked in another asked for a statement of availability on the ground that work was to be had in his home city and that commuting caused him undue hardship. He commuted daily in a private automobile shared by other workers. The committee turned him down, holding that unreasonable distance between home and work is not ground for issuing job transfer permission where the employee is brought to work under a group-riding arrangement.

It's C.I.O. at Sun

Union wins by a nose at shipyard, but how Negro vote went is anybody's guess. Racial animosity no serious problem.

After a six-year struggle, the C.I.O. Industrial Union of Marine & Shipbuilding Workers finally has won exclusive bargaining rights at Sun Shipbuilding & Dry Dock Co.'s Chester (Pa.) yards. It was a photo finish and attracted attention mainly because the Chester yards have become an employment laboratory for Negro labor.

• **Half the Payroll**—The 16,000 Negroes employed in the Chester yards constitute almost half the payroll. No 4 yard is staffed entirely by Negroes—6,400 of them, including 600 women earning up to \$25 a day. Where their sympathies lay, as between the C.I.O. and the unaffiliated Sun Ship Employees Assn., was a mystery during the skirmishing preliminary to the election a fortnight ago; and it is still anybody's guess.

Of 25,647 ballots cast in the election supervised by the National Labor Relations Board, the C.I.O. received eight votes short of a majority. The result was not determined until NLRB officials had examined 61 challenge ballots and awarded the election to the C.I.O. by a margin of 25 votes.

• **C.I.O. Claims Majority**—Before the election, the C.I.O. union cried that the company was importing Negro workers to pad the vote lists. And it is reasonable to assume that the company, too, believed the Negroes would be opposed to C.I.O. representation in view of the large employment of Negro personnel in jobs usually held by whites. Now the C.I.O. has changed its story and claims that it actually won a majority of the Negro votes in the recent balloting, a claim that the company disputes.

High feeling engendered by the election resulted in one serious flareup, still r



FUN WITH EGGS

1 Francis Wilson the actor once said his ambition was to throw an egg into an electric fan—and now it's being done every day! In fact sixteen billion eggs are being thrown at electric fans this year—thanks in large part to the "know-how" of Taylor Instrument engineers. The result is dehydrated eggs that are darn good eating!

Her Price



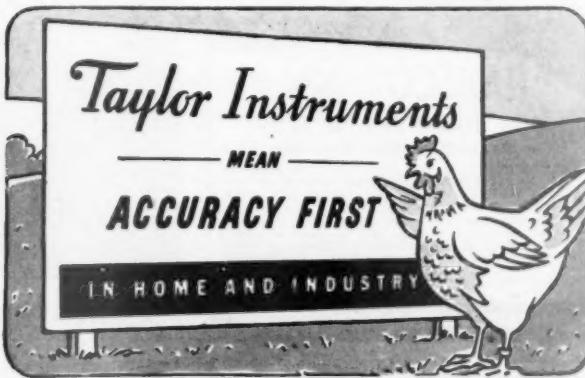
2 This morning in North Africa our boys breakfasted on scrambled eggs made of dehydrated eggs and dehydrated milk. Both are processed under Taylor control—squirited into a current of hot air from an electric blower. Sounds simple—but it might have been impossible without Taylor's years of experience in food process control.



3 Almost everything you eat, from prepared meats and canned vegetables to your morning quart of milk is protected by Taylor accuracy. Even the hot dog, recently voted the soldier's favorite food. Before it was invented (during the Spanish-American War) Taylor Instruments were a standby of the American food industry.



4 In fact, we're even guarding this girl's popularity, part of which is due to the swell fudge she makes with her Taylor Candy Thermometer. Sorry to get your hopes up, because practically all our production these days is going to the armed forces or war industry. However, we still make Taylor Fever Thermometers.



5 Probably instruments are the answer to many of your war production troubles. Your Taylor Field Engineer can help you set up the right control system for any process—from foods to synthetic rubber. And he can help make present instruments last longer. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

SO THAT THE GUNS MAY BARK

Getting the ammunition to the deck gun quickly, surely, is one of the jobs that Sedgwick Hoists are doing in war service.

Sedgwick

Special purpose hoist equipment for Navy and Maritime Vessels, Aircraft Factories, Ordnance Plants, Depots, Arsenals and Forts.

HOISTS
ELEVATORS
ROTO-DRIVES

SEDGWICK
MACHINE WORKS
159 WEST 15th ST.
NEW YORK
ESTABLISHED 1893

POST-WAR PLANS

Ford, Bacon & Davis
Incorporated
Engineers

Throw away your HAMMER and get a HANSCO!

Drivers T-head Tacks up to $\frac{1}{2}$ "—the only Tacker that does!

TACK-splitting is not only dangerous, slow, laborious—but it's out-of-date. So is glue. Get rid of both with a HANSEN Tacker that "spits" and drives T-head Tacks with rat-a-tat speed.

Such war-time tacking as plywood for airplanes, ordnance and navy, building, etc., is ahead of schedule as a result of using HANSEN Tackers. A model for every tacking or fastening purpose.

Ask for War Folder 31-T

A.L. HANSEN MFG. CO. 5130 RAVENSWOOD AVE. CHICAGO, ILL.

Be 100%
with your 10%
BUY WAR BONDS

riot in which one Negro lost his life and four others were shot, but in general, Sun regards its experiment in the mass employment of Negroes as highly successful. Inevitably, of course, the situation has been fraught with serious tension at times, but in most instances, the company has been able to take the fire out of the race issue by spiking rumors that might otherwise have given rise to threatening outbreaks.

• **Priorities Blamed for Delays**—For example, the company has scotched the report that ineptness of Negro labor was responsible for delays in production, blaming instead a mixup in priorities during early stages of production which retarded delivery of materials and equipment. A corollary of that report was that not a single ship had been launched in the No. 4 yard manned by Negroes. Actually, two ships from these yards are in the water, both large cargo ships of a secret type, and a third is to be launched soon. The first was completed in five months and five days, as compared with another company's seven months for the same job.

Another report was that Negro welders spoiled more than their share of materials and, to cover up, stole plates and other materials from yards where whites were employed. The size of the plates, many of which can be moved only by crane, refuted the theft charge, and Sun Ship pointed out that

equipment isn't interchangeable anyway. Furthermore, the company's experience is that a Negro welder after nine months can turn out about 60% as much work as a white man with two years on the job.

• **Negro Handles Personnel**—A Negro newspaper published a story that production at No. 4 was being sabotaged by the employment of white foremen from the South. The company admitted that white personnel occupied the supervisory jobs, but added that only one was a southerner. That Negroes eventually will be upgraded into supervisory work became fairly obvious when the company hired Brad Holland, Negro All-America football player at Cornell, to take charge of personnel at No. 4.

FIREMEN'S SIDELINE

A snug pocketful of able-bodied, part-time workers was uncovered when Los Angeles war plant employment managers tapped the city fire department. Nearly half the firemen (360) are working regularly while off duty, 335 of them in war jobs. About 400 work intermittently, 323 in war jobs.

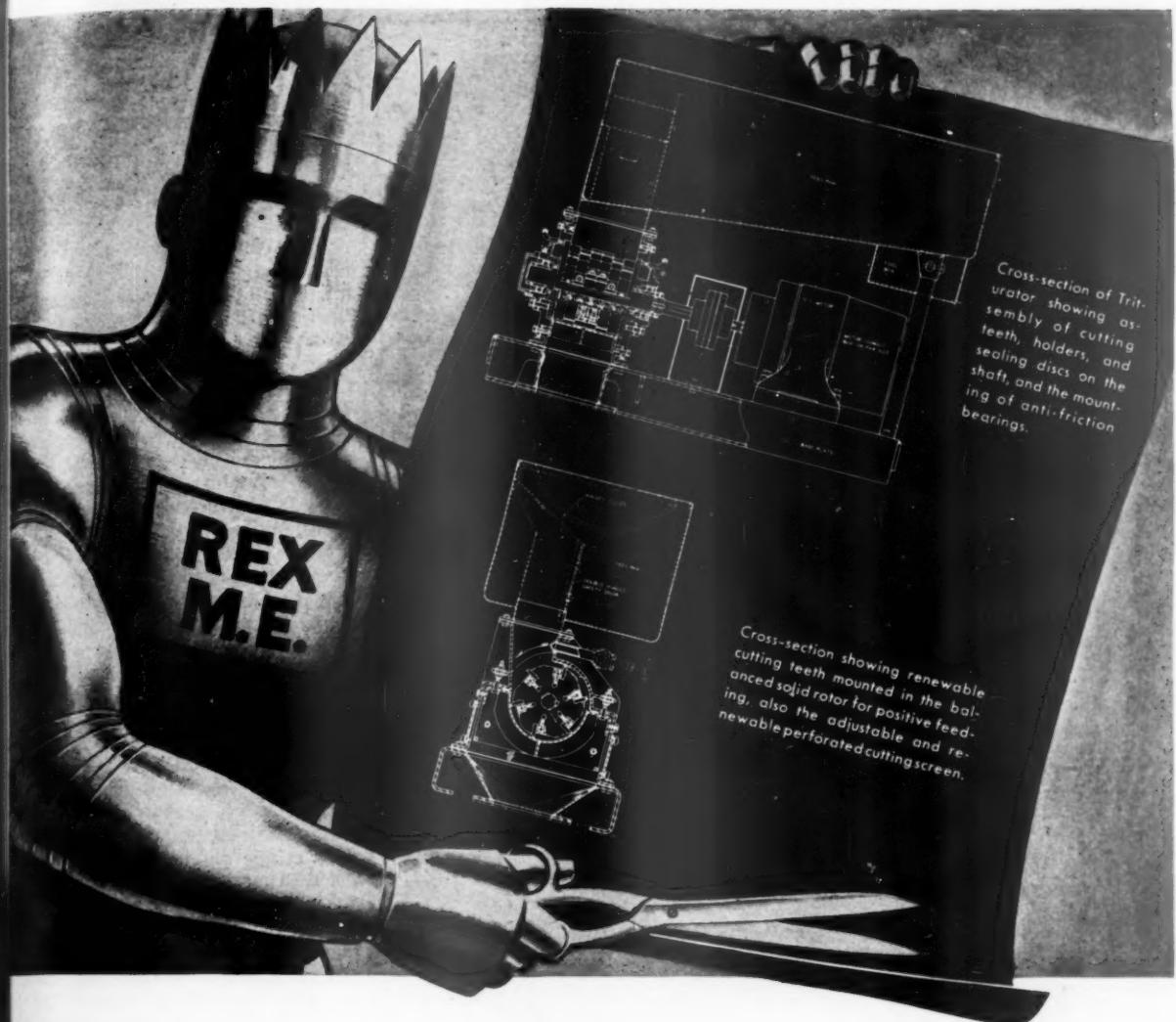
The city attorney and War Manpower Commission will outline a policy governing such employment, eliminating any official barriers that may be found.



PERSISTENT PICKETS

Continued picketing by insurgent United Mine Workers Union members and their families in Pennsylvania still kept about 18,000 miners out of the pits this week and curtailed production at a half dozen steel plants. The insurgents are protesting

the National War Labor Board decision which denied John L. Lewis his portal-to-portal pay demand. A federal grand jury began investigating the dissident movement at midweek, and it is expected to hand down indictments under the Connally-Smith act if it can fix responsibility for leadership of the strike.



HE SHEARS SOLIDS AT THE RATE OF . . . 3,000,000 BLADE CUTS PER MINUTE

Disintegrating organic solids is a very important step in many manufacturing processes.

For this function, REX Mechanical Engineering—REX M. E.—has developed his Triturator. Its high speed clean-cut shearing action at the rate of 3 million blade cuts per minute reduces solids to minute pieces. The performance is far superior to hammer-mills or ordinary knife mills.

Originally designed for sanitation engineering use, REX M. E. has found many applications for his Triturator in Industry—solving difficult problems of disintegrating and shearing organic solids for processing or waste disposal.

The upper drawing at the top shows its assembly of cutting teeth, holders, and sealing discs on the shaft, and the mounting of anti-friction bearings.

The lower drawing shows the renewable cut-

ting teeth mounted in the balanced solid rotor for positive feeding, also the adjustable and renewable perforated cutting screen.

This Triturator meets squarely this exacting requirement resting upon all engineers: *To produce maximum useful results with minimum cost and waste.*

REX Conveying and Engineering Products Division, REX Chain Belt and Transmission Division, REX Construction Machinery Division, Milwaukee 4, Wisconsin. Baldwin-Duckworth Roller Chain Belt Division, Springfield, Massachusetts.

CHAIN BELT CO. OF MILWAUKEE

Member of the Water and Sewage Works Manufacturers Association, Inc.

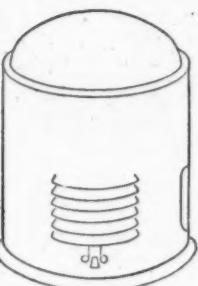
Something Marine Diesel Engines have may make your Postwar Washing Machine more Economical to Operate



These days, it's in such equipment as Marine Diesel engines, helping to give our submarines longer cruising range, greater "git-up-and-go" in emergencies. When the war is won, the same part may make your washing machine more compact and more economical to operate. It's the Torrington Needle Bearing.

Not only your mechanical "laundryman" but a host of other servants are going to be improved in design and performance, thanks to this unique anti-friction bearing. Tomorrow's floor polisher will run more smoothly . . . your next car will steer and brake more easily. Adding machines will require less attention, portable tools will be lighter in weight.

These must wait, of course, until Victory—and the Needle Bearing



is even speeding that day...in Marine Diesel engines and countless other war applications.

But once industry gets back into peacetime harness, you'll be surprised to find how frequently the Needle Bearing appears in the improved products you'll buy.

THE TORRINGTON COMPANY
Established 1866 • Torrington, Conn. • South Bend, Ind.

Makers of Needle Bearings and Needle Bearing Rollers

New York	Boston	Philadelphia	Detroit
Cleveland	Seattle	Chicago	San Francisco
Los Angeles	Toronto		London, England

YOU WILL WANT TO CONSIDER, with an eye to improving your postwar product designs, the many sales and manufacturing advantages Torrington Needle Bearings offer through such features as—

1. Small size	4. Efficient lubrication
2. Light weight	5. Ease of installation
3. High load capacity	6. Low cost

Preliminary information on sizes and ratings of the Needle Bearing, together with typical applications, will be found in Catalog No. 121. Write for a copy.

ALWAYS REMEMBER TO ASK:
DOES IT HAVE

TORRINGTON NEEDLE BEARINGS



Wages Bracketed

Employers see confusion in labor board machinery for handling maladjustment cases. Here is how it works.

The National War Labor Board's twelve regional boards have been busy for the last month figuring out so-called "wage brackets" under which both voluntary and dispute cases involving pay scales are being decided. The boards at Cleveland, Detroit, and New York are well along with their computations, and it is expected that, within another six weeks (if the Little Steel wage line still holds), all wage issues coming before the war labor boards will be dealt with by using the wage-bracket device.

• **Little Steel Amplified**—Under the President's hold-the-line order and subsequent interpretations of it issued by the Director of Economic Stabilization, NWLB's authority to award wage increases is limited by the Little Steel formula (allowing 15% above the Jan. 1, 1941, level), except in the case where further pay hikes are justified to correct substandards of living and eliminate gross inequities. However, the board does not automatically grant permission to raise wages up to the Little Steel ceiling in all cases where rates are below what the formula would allow. It tries to consider such related matters as how the wage rates in question compare with rates paid in other firms in the same area or in the same industry. Similarly, in judging appeals for pay boosts made on the grounds that they are necessary to correct substandards or dispose of inequities, NWLB is usually careful not to destabilize prevailing standards.

Up to the first week in June, consideration of such factors as how a wage in question compared with area or industry norms was done on a case-by-case basis. This slowed up the disposition of cases and was generally considered an undesirable procedure. However, employers had a pretty clear idea of what was going on.

• **Employers Confused**—Then, on June 8, NWLB told its regional boards to establish wage brackets and issued instructions on how to apply them. The result was a period of confusion which still persists. Many employers confess to understanding little of the new procedure; all of them acknowledge that, wacky or not, it has to be mastered if management is going to conduct any business involving wage adjustments with the National War Labor Board.

A wage bracket is a range of figures representing going rates for given jobs within an industry or area.

Tentative brackets have been com-

eted
infusion
ry for
cases.

you can't
breakfast like a bird
and work like a horse!



THIS IS A GOOD BREAKFAST
Grapefruit, orange juice, melon or berries. Coffee.
Oatmeal or other cereal with milk. Eggs now and then.
2 slices whole wheat or enriched bread and butter.

VICTORY VICTUALS DRIVE

Stars of the cartoon films are lending their services to the California War Council's campaign to persuade war workers to eat vitamin-packed meals, thus combating work fatigue.

a goofy lunch
pulls your punch!



THIS IS A GOOD BOX LUNCH
A half-pint of milk. Two meat or cheese sandwiches on whole wheat or enriched bread. A raw carrot and an orange. Cookies or other dessert.

puted by each of the regional war labor boards. They were constructed by taking the weighted average of wage rates approved by regional boards and the NWLB in cases decided under the hold-the-line order. The bracket minimum is set at 10% below the over-all average and the maximum at 10% above. The 10% figure may be increased or decreased at the discretion of the regional board.

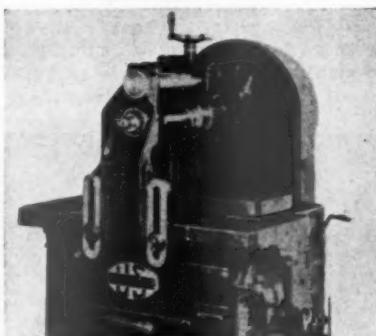
• **Minimums and Maximums**—Permanent brackets are established only when a mass of wage data is collected. If, in a given labor market, firms pay a fixed rate for a job, the bracket minimum is set at a point where the first substantial and representative "cluster" of rates is discovered. If firms pay for a job within a set rate-range (within which the employee may theoretically move up or down), the minimum of each plant's rate-range rather than the average or maximum rate in the range is used for

IN THE NEWS

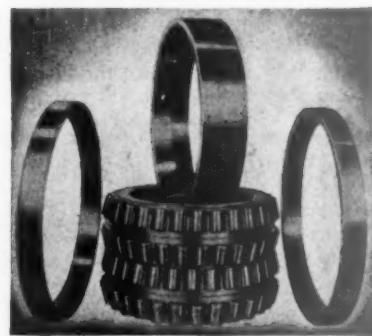
WITH TORRINGTON-BANTAM



WHY "LEATHERNECKS" SHINE. One of the reasons the Marines are quick to have the situation well in hand is the .30 caliber Johnson Light Machine Gun, manufactured by Johnson Automatics, Inc. To produce these modern weapons of war, Johnson uses special precision equipment in which Needle Bearings are installed. These Needle Bearings were selected because of their unusually high unit capacity and ready adaptability to many machine tool applications.



A SAFETY CLUTCH to prevent overloading is one of the features of this "Multi-Miller" built by U. S. Tool Company. An anti-friction Needle Bearing houses a normally stationary high friction bearing which turns and trips a safety stop device when shaft loads approach the danger point.



ARMOR-PLATE FOR TANKS AND BATTLESHIPS is rolled out in the nation's steel mills with the aid of giant anti-friction bearings like the one shown here. More than four feet in outside diameter, these large 4-row tapered roller bearings are made by Bantam Bearings Division.

A COMPLETE LINE of needle and standard anti-friction bearings—all types, for all purposes—is available from Torrington-Bantam, as well as special types and custom-designed bearings for new and unusual applications. For experienced engineering counsel in the solution of your bearing problems, TURN TO TORRINGTON.

TORRINGTON BEARINGS
STRAIGHT ROLLER • TAPERED ROLLER • NEEDLE • BALL
THE TORRINGTON COMPANY • BANTAM BEARINGS DIVISION
SOUTH BEND, INDIANA

purposes of determining brackets. The bracket minimum is fixed where the first substantial and representative cluster of such minimum rates is found. Where, within one labor market area, firms pay both set rates and rate ranges, the bracket minimum is the minimum figure in the rate range of range-paying firms. Maximum rates are set in the same fashion.

• How They Are Used—The wage brackets are used in all so-called maladjustment cases. Where application of the Little Steel formula would move the rate for any job classification above the maximum of the appropriate bracket, the increase allowed for such a classification will be limited to the bracket maximum. Any adjustments sought for wages which are already above the bracket minimum may be made only if necessary "for the effective prosecution of the war." These can be made only in establishments which are covered by the War Manpower Commission's list of essential activities or which are designated by WMC as carrying on "locally needed activities." Further, to qualify under the essential industry classification, a plant must be certified by appropriate government agencies as abiding by all recruitment, training, and labor utilization regulations, and as operating on an extended wartime workweek.

An employer who pays single rates and who applies for permission to raise his rates may get that permission if the rates he pays are lower than the bracket minimum when the bracket is based on

single rates. If the bracket is based on a series of rate-ranges, he may be permitted to raise his wages above the bracket minimum to a point roughly equal to the difference between the average minimum rate and the average middle rate of the rate-ranges within the bracket.

• When Can You Raise?—A firm which pays occupational rates within a rate-range may be permitted to move the minimum of its rate-range up to the bracket minimum where it so desires. Its maximum, also, may be adjusted to correspond to the bracket maximum, but it cannot be set above that figure. Where regional boards find that inter-establishment gross inequities exist, a full Little Steel increase is allowed for jobs which are paid less than the bracket minimum, and modified or "tapered" for other jobs which are paid at rates within a bracket span. The adjustments allowed for wages which are already within a bracket are often justified as necessary to maintain traditional differentials. Each of the regional war labor boards is already rendering wage-bracket decisions, and, until the Little Steel formula is amended or upset, the bracket device will be the most important wage determinant in the economic stabilization program. Employers should not be dissuaded by its complexities from going to their regional boards for figures on occupations in their plants. Comparison of their rates with these figures will give them the best information available on what latitude, if any, is allowed them for wage adjustments.

Shortages Grow

WMC adds four cities to its list of areas where acute lack of manpower is felt; eight new areas in Group II.

The War Manpower Commission's designation of cities as areas of acute labor shortage (Group I) and areas of labor stringency (Group II) brings regular floods of protests from local chambers of commerce, boards of trade, and individual business men who fear their towns will lose war contracts as a result.

• Classifies 291 Areas—Once a month, WMC considers these protests along with fresh labor market data which is continuously being gathered by the U. S. Employment Service, and once a month it revises its lists. The latest revision classifies 291 labor market areas and adds four communities to the Group I roster. These are Muskegon, Mich.; Stockton, Calif.; and Anniston and Gadsden, Ala. This brings the number of communities in Group I to 46 (BW-Jun. 5 '43, p90). Group II areas now number 101 and include, for the first time, Spartanburg, S. C.; Lebanon, Pa.; Monroe and Port Huron, Mich.; Reno, Nev.; and Santa Ana, Santa Barbara, and Ventura-Oxnard, Calif.

Actually, designation of a city in Group I or Group II does not automatically prevent the granting of government contracts to those areas. Under instructions from WPB Chairman Donald Nelson, service procurement officers are directed to give prior consideration to (1) ability to deliver or perform a contract on time, and (2) ability to fill a contract with a minimum amount of new machinery or equipment.

• Up to the Individual—How much weight a procurement official gives to manpower supply is an individual affair, but WMC's lists are a standard reference item in every procurement office's files, and firms seeking government orders feel much more comfortable when the town where their plant is located does not appear in Group I or Group II.

Up to this month, Groups III and IV were made up of the larger or more important war production centers which were under surveillance for manpower supply changes but which did not yet have pressing shortages. In its current listing, WMC ranks 70 areas in Group III (where a general labor shortage may be expected after six months) and 74 in Group IV (where labor supply is and will continue to be adequate to meet all known labor requirements). Starting next month, however, all areas in the nation having a population of 25,000 or more will be classified according to labor supply.



JUST YOUR SIZE

Virtually all lathes, millers, and other machine tools are built to standard heights; operators come in all sizes. For unusually tall or short workers, the result is extra fatigue. At Rockford,



Ill., Woodward Governor Co., eliminates undue bending by raising all machines on 4-in. or 5-in. solid blocks (right)—welded to bases or placed under legs. Stretching is obviated by providing short men with maple grill platforms—made to measure.

ELECTRIC FURNACE STEELS

WILL HELP BUILD

TOMORROW'S BETTER WORLD



A Dream Comes True Tomorrow

Then a peacetime dawn dispels the dusk of war, the American housewife will find new joy in living in the kitchen of tomorrow. It will be bright, cheerful, efficient—because steel, and especially stainless steel, will make it so.

Designers and engineers already are using their ingenuity in producing plans. And with the coming of peace they will be able to use the fine steels which the greatly increased capacity of Republic's electric furnaces makes available to them.

Outstanding among Republic Electric Furnace Steels is ENDURO Stainless Steel—the metal of ten thousand uses—a material with the high strength of steel and the cleanliness of glass.

Because it is inert to fruit, vegetable, meat and dairy products, it neither affects nor is affected by foods. Its hard, smooth surface is sanitary and remarkably easy to clean. A mere wiping with damp cloth usually restores all its beautiful silvery lustre.

It lasts indefinitely—because it resists rust and corrosion—because it is solid stainless steel all the way through with nothing to wear off.

ENDURO Stainless Steel is only one of the "targeted steels" made possible by electric furnace processing in Republic mills. Others—each made to perform its specific task—are proving in wartime use how precise control in the electric furnace enables them repeatedly to hit exacting marks established by product or fabricating specifications.

Tomorrow holds the prospect of better things to work with and to live with—in the home—in industry—on the farm. Your product may be one of these better things—something that can be designed with enhanced sales appeal and manufactured by economical methods of mass production through the application of Republic Electric Furnace Steels. Republic Steel Corporation, General Offices—Cleveland 1, Ohio. Export Department: Chrysler Building, New York 17, N. Y.

REPUBLIC ELECTRIC FURNACE STEELS alloy... stainless... "aircraft quality"

—also open hearth and Bessemer steels—cold drawn steel bars, sheets, strip, plates, tin plate, pipe, tubing, bolts, nuts, rivets, farm



fence materials, wire, nails, shelving, lockers, windows and other steel building items, and many modern fabricated steel products.

FINANCE

SEC Set Back

Suit to enjoin Investors Syndicate tossed out; rumor the commission sought to balk probe goes the rounds.

Initial efforts of the Securities & Exchange Commission to enjoin the Investors Syndicate group of companies were tossed out of court in Minneapolis this week. Federal Judge Gunnar H. Nordbye declared the SEC's evidence did not "seem to justify such drastic measures at this time" and was insufficient "to warrant the court assuming that the defendants will not faithfully account for all moneys."

• **More Action Promised**—This rebuff followed by just a week the commission's first appearance before Judge Nordbye in the case (BW-Jul.10'43,p.122). And SEC counsel immediately announced that the next step would be arguments July 21 for a broader temporary restraining order than the one denied.

Based on allegations ranging from gross misconduct to misuse of the war bond campaign and violation of the securities and investment company acts of 1933, 1934, and 1940, the restraining order was sought to freeze operations of the firms to protect investors and prevent a "run" on the defendants, pending final determination of the action.

• **Receiver Sought**—The SEC wants to stop the practices on which it frowns, to prohibit most of the top officers and directors from further association with the firms, to forbid Investors Syndicate from serving as principal underwriter for the two subsidiaries, and to place the parent company in receivership. Summarized, the case is this:

Under the Investment Company Act of 1940, Investors Syndicate was unable to qualify its certificates, which it had been issuing since 1925. These 10- to 15-year instalment payment face amount certificates, bearing 3% to 5½% interest, provided depreciated cash-in values in early years, reached the break-even point for investors in six to eight years.

• **New Companies Formed**—So two subsidiaries were organized, Investors Mutual, Inc., an investment trust, and Investors Syndicate of America, Inc., issuing certificates similar to those of its parent, but meeting securities act requirements. The parent firm was principal underwriter, handling subsidiary affairs under a management and operating arrangement.

About this time, a new financial head-

Let's get it over QUICK! . . . Speed up war production jobs involving lifting, pressing, bending, etc. -- with

HEIN-WERNER HYDRAULIC JACKS

Bend rods, press bushings, move machines, lift heavy loads, etc., quicker and easier with Hein-Werner Hydraulic Jacks.

Model 30.11A (illustrated) incorporates an entirely new arrangement of dual operated speed pumps—making this 30 ton capacity jack unusually fast and easy operating.

Hein-Werner also makes other jacks of 3, 5, 8, 12 and 20 tons capacity... For details, consult your nearest industrial supply distributor, or write us.

HEIN-WERNER MOTOR PARTS CORP.... Waukesha, Wis.





MID BULLS AND BEARS

It was bound to happen. Two months ago a brokerage house upset the all-male New York Stock Exchange by installing a girl odd-lot clerk (BW—May 8 '43, p106). And this week the exchange itself put on 36 quote girls and female pages.

The confronted Investors Syndicate. Declining rates of return on its holdings—chiefly Federal Housing Administration insured mortgages, secondarily bonds and investments and other real estate mortgages—made its own certificates an increasing financial burden. So it embarked on a program to reduce the outstanding volume of such certificates. Methods Challenged—SEC and Investors Syndicate clash over the manner in which this program was carried out. SEC charges the "special offer" to certificate holders involved inducing them to switch to holdings of its subsidiaries. Those approached, it is alleged, were at or near the break-even point in their contracts. They were given high-pressure sales presentations, says SEC, such as claims that federal law required the exchange, and that it was approved by SEC or the government.

Further, says SEC, the companies never obtained SEC approval of an offer to exchange, as required by the Investment Company Act of 1940.

The Company's Attitude—Defendants counter that the special offer was a cash offer only, involving giving a premium over certificate's cash surrender value. Affidavit of E. E. Crabb, chairman and president of all three firms, says the offers were started in 1936 and were not contingent upon any reinvestment, that only one-third of investors approached accepted, and only 80% of that one-third reinvested their cash in the subsidiaries' securities.

Denying, therefore, that SEC ap-

THEN BUSES WILL BE

Braked Electrically



It's rough going along the Alaska Highway—big tractor-trailers heavily laden with supplies for the Aleutians must grind up steep grades, creep down icy hills, or plough through snow and mire. Yet these giant land transports are always kept under safe and complete control by Warner Electric Brakes. Performance-proved on many war fronts—on huge artillery pieces, as well as motor transports—these Electric Brakes are destined for wider ranges of service after the war. Then buses will be braked electrically—yes, and many other types of power equipment.

Warner Electric Brake Mfg. Co.
Beloit, Wisconsin

WARNER
ELECTRIC BRAKES

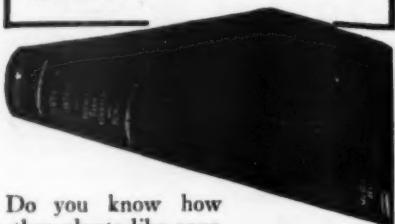
CONTROLLED SPLIT-SECOND STOPPING POWER FOR ANY PURPOSE

GET MORE VOLUME

VOLUME

**quicker—
cheaper—**

**through modern production
planning and control
methods**



Do you know how other plants like your own control their procurement and storage of materials—routing of operations—dispatching? How they control quality and inventory—what production records they keep—how they follow up details? Here is a book written out of actual industrial practice today, that tells you specifically and in detail.

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PRODUCTION CONTROL

Price, only \$2.75

Tremendous pressure on industrial plants today means just one thing—better planning and control methods. This book grew out of a survey of current factory methods in 185 representative companies in all types of industry. It offers you complete analysis and discussion of planning and control, the fundamentals involved, case histories to illustrate applications, library of good control forms, etc. See what valuable suggestions and ideas you can get to apply to your own problems. Send for a copy today.

Look up in this book:

- the discussion of the 4 basic factors in forecasting production volume
- the explanation of the 3 types of budgets
- the treatment of the cycle of production planning
- the examples of purchasing and stores records
- the routing charts
- the example of a master control schedule
- the discussion of planning boards
- the study of when, where, and how much to inspect, etc., etc.

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McGRAW-HILL BOOK CO., 330 W. 42nd St., N.Y.C.
Send me Bethel, Tann, Atwater and Rung—Production Control for 10 days' examination on approval. In 10 days I will send you \$2.75 plus few cents postage or return book postpaid. (Postage paid on cash orders.)

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BW-7-17-48

THE MARKETS

Pessimists have gone into hiding. People who say "this can't go on forever" are getting almost as scarce as they were in the summer of 1929.

The rampant bulls felt more in control of the situation than ever this week. To start with, the market obviously had up a full head of steam. It barely hesitated when profit-taking put in an appearance. Finally the rails, which for weeks had been unable to surmount the top they set the end of last May, broke through decisively.

• **Breakthrough on Volume**—The breakthrough of the rails provided all the stimulus that the chart readers needed. Here, once again, was the signal that confirmed their bull market. The punctuation was made on expanded trading volume, all the more to their liking.

The railroad averages now are at the highest levels since 1937. The industrials, however, haven't even recovered to their 1940 high. The bulls argue that nobody would have called 1940 prices exorbitant, nor the prospect early that year anything to cheer about; today the prospects certainly are much better (high taxes notwithstanding), so why shouldn't prices climb further?

• **Bears on the Run**—Weakness of the bulls' position is obvious: Too much confidence leaves the market unduly vulnerable to any really bad news. But that won't be any consolation to a lot of bears who have passed out clawing. Just how many of the latter, you may judge from the decline in the short interest from 980,047 shares on May 28 to 879,575 on June 30. This was the sharpest drop in the short interest in 18 months.

Prior to last month, the bears had been pretty stubborn. After three years in which the short interest had fluctuated

within a fairly narrow range around the 500,000-share mark, it climbed from 501,833 at the end of 1942 to almost a million last May. The June drop indicates pretty clearly that a lot of the boys suddenly became afflicted with cold feet.

• **Sugar Isn't Sweet to Bears**—Some of this week's sharp price swings hinted that the shorts were still taking a lacing. This was particularly true in Pepsi-Cola which has been an outstanding point of strength in a rising soft-drink group, buoyed by the easier sugar situation.

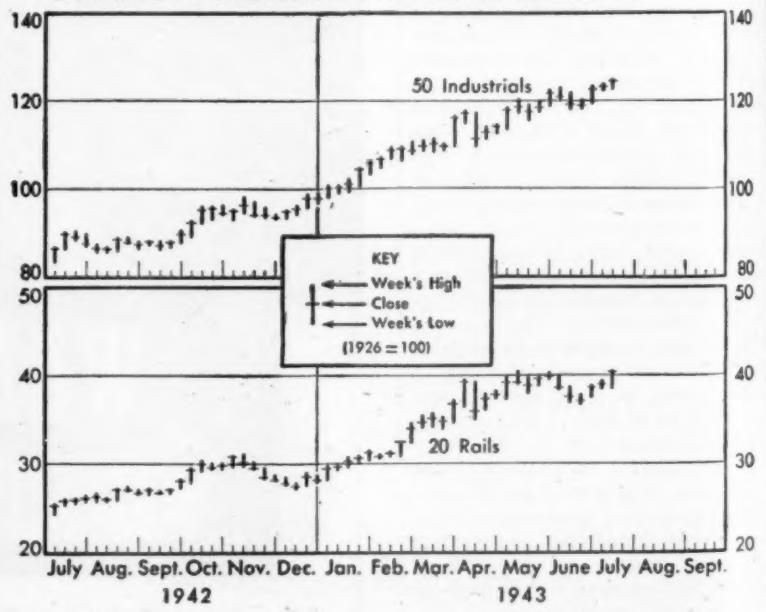
That this is no market for indiscriminate buying, however, was demonstrated by American Car & Foundry. Buyers of this company's stock had been expecting earnings as high as \$20 a share in the report for the fiscal year ended last Apr. 30. Actually when the financial statement came out this week, heavy reserves for renegotiation of government contracts knocked the figure down to \$5.05 a share. Moreover, the previous year's net, originally reported at \$12.09 a share, was pared by renegotiation to \$7.28, showing that danger still lurks behind every post on every exchange.

Security Price Averages

	This Week	Month Ago	Year Ago
Stocks	Week	Ago	Ago
Industrial	124.8	123.1	119.2
Railroad	40.5	38.9	37.5
Utility	51.5	50.5	47.2
Bonds			
Industrial	116.6	116.8	116.1
Railroad	101.0	99.6	97.3
Utility	115.0	114.9	113.9
U. S. Govt.	113.2	113.4	112.6

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

oval of the special offer was needed, that improper sales methods were used, Crabb claims that SEC officials have known about the offers since July, 1939, that last December it discontinued the offers because "members of the staff of SEC were questioning the making" of the offers, and that only a month ago the company told SEC it was willing to make revision.

Other Contentions—Such is the major one of the case. Beyond that, SEC charges:

(1) Investors Syndicate is continuing to issue its own certificates "by way of reissue, reinstatement and transfer," in the face of the fact that these certificates are not registered with SEC.

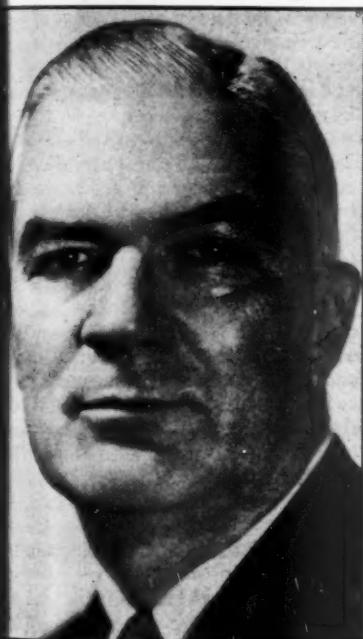
(2) The two subsidiaries are not delivering prospectuses in accordance with requirements of the securities act.

(3) Untrue statements are made in sale of the subsidiaries' securities, notably that they are approved or sponsored by the United States; that they are better, safer, or yield more than war savings bonds, and their purchase aids the war effort; that they are a safe savings account and money may be withdrawn at any time.

Defendants' answers are that:

(1) Reinstatements and transfers of Investors Syndicate certificates are in line with contract provisions, which were made when said certificates were exempt from SEC registration, and are designed to protect the investor.

(2) The companies have signed receipts



RESIDENT TO BE

To Washington, D. C., will go the presidency of the Investment Bankers Assn. next fall, according to present plans. Official nominee is John Clifford Folger (and nomination never has failed to mean election).



...it's the answer to another
special war tool problem

CAN WE SOLVE ONE for You?

This special tool cut assembly time in half on a certain operation vital to war production. Analyze your problems. Could a specially designed tool save time and money for you, too? If so, consult us.

Plumb dealers handle stock tools for professional mechanics

Throughout the nation, dependable dealers carry complete assortments of supreme quality Plumb tools for war production and maintenance. For the fine hand tools you need, call the Plumb dealer nearest you.

Plumb gives you a 2-fold service

Plumb offers a double service to help speed your war job. It is made possible by the cooperation of 36 separate plants in making the fine hand tools we need for victory. Take advantage of it in these two ways: 1. Consult our engineers for special tools; 2. See your Plumb dealer for regular tools.



PLUMB TOOLS CONTRACTING CO. A Division of the
PLUMB TOOL COMPANY
LOS ANGELES & CALIFORNIA



RODGERS Hydraulic Trailer Track Press illustrated above is designed to service all crawler type tractors, and is furnished with the "Retractable Jaw," which is considered the finest improvement ever to be made in track servicing equipment.

The Trailer Track Press is equipped with four-cylinder hydraulic pump, powered by a four-cylinder gasoline engine.

Other models are available mounted on four wheels, or as stationary units.



RODGERS Hydraulic Track Presses are recommended and approved by the Engineering and Servicing Departments of every crawler tractor manufacturing company. Rodgers equipment will service all crawler type tractors with Power, Speed, Durability and Safety. *If it's a Rodgers, it's the best in Hydraulics.* Rodgers Hydraulic Inc., St. Louis Park, Minneapolis, Minnesota.



HYDRAULIC, Inc.

for prospectuses of every security sold by the two subsidiaries.

(3) Practically all charges of misstatements are refuted by the very complete disclosure in the prospectuses; documentary evidence proves the sincere effort of the company to educate its salesmen "in regard to proper sales methods and the requirements of the law"; misconduct, when uncovered, resulted in disciplinary action.

• **Inflation Retarder**—They defend their right to represent that money invested in their securities helps siphon off excess public funds and thus aids the fight against inflation and, in the long run, the war effort.

Financial condition of the companies is not involved in the case. Defense counsel submitted financial statements to show the firms have quick assets sufficient to pay off all investors "within a week" and still have \$20,000,000 in excess.

• **The Backstage Gossip**—Filtering from Washington is the whisper that SEC, to counteract Byrd committee probe of the agency, launched this case to make a showing.

COMMODITIES

For 1944's Food

Jones calls for increase in acreage as 1943 crops drop below last year's all-time peak; livestock feed critical.

The Plow that Broke the Plains is going back to work again. Originally introduced as the villain of the era of America's submarginal farming, the plow will turn under 16,000,000 more acres of land in 1944 than in 1943—this time as the hero in the battle for food.

• **Expansion in Wheat**—The plan was announced on Tuesday by new War Food Administrator Marvin Jones and calls for cropping 380,000,000 acres in 1944 compared with 364,000,000 this year. Whole expansion will be for wheat, whose acreage is boosted to 68,000,000, up more than 25% from 1943.

Acreage of several foods has been increased since the outbreak of war in Europe, but each time an effort was made to borrow the land from surplus crops so as to prevent a rise in over-all planting. Now, however, the soil conservation line has been broken; the program that prompted Rexford Guy Tugwell's Resettlement Administration to film *The Plow that Broke the Plains* (BW-Jul.11'36,p14) has taken a back seat to war.

• **Goals Not Achieved**—The reason is clear to see. While 1943 farm production of food is topping the ten-year

average—is, indeed, substantially better than it looked a month ago—it isn't enough to meet needs and it is far short of the goals originally set. Notably deficient is the prospective harvest of feed grain to maintain this country's record livestock population.

And even to say that crops are above the 1932-41 average is not to say they are sufficient for present greatly expanded needs. The period of this ten-year average is the decade when the United States was largely out of world export markets, and curtailment of crops was necessary to prevent the piling up of price-wrecking surpluses. It witnessed the plow-under of the little pigs and the worst droughts in the country's history.

• **How the Figures Look**—The companies suffer particularly because all factors combined last year to give the country the biggest food and feed crop on record by a thumping margin. The official forecast of a 2,706,552,000 bu. corn crop compares with last year's record 3,175,000,000-bu. harvest; this year's 790,832,000 bu. of wheat compares with 981,327,000.

The drop in corn bothers the food authorities in Washington particularly. Adding corn, oats, barley, and grain sorghums, 1943 production of livestock feed is put at 107,000,000 tons against 124,000,000 tons in 1942. If feed is tight now, what will it be a year from now? The Dept. of Agriculture notes that changes in feeding may be necessitated; this probably means feeding less and getting a price bonus for sending lean animals to market.

• **Crop Outlook Improved**—Plans for large expansion of wheat acreage reflect concern that is much less immediate than real nonetheless. Weather has helped some; the forecast as of July 1 is 60,000,000 bu. better than it was a month earlier. A crop of 790,000,000 bu. would take care of domestic feed requirements (normally no more than 675,000,000 bu. a year), of lend-lease and of a good part of foreign relief.

Problem is that wheat now is more than a food crop and, as such, has caused much concern in Washington (BW-Apr.17'43,p117). Large quantities have been required for livestock feed; the synthetic rubber program's alcohol needs call for rapidly increasing amounts of wheat.

• **Imports Could Help**—In figuring supply, this year's crop must be added to July 1 carryover of old wheat amounting to about 600,000,000 bu. If the 1,400,000,000-bu. domestic crop-plus-carryover begins to look low to the authorities, there is the consolation that Canada goes into the new crop year with a carryover estimated at nearly 650,000,000 bu. and probably will harvest 250,000,000 bu. this year—a supply that double Dominion and British requirements.

Oils from Abroad

Increased purchases by Commodity Credit Corp., plus development of new sources, help fill industrial needs.

From the Belgian Congo, Brazil, India, and Ceylon, the Commodity Credit Corp. is importing sizable tonnages of vegetable oil nuts, meats, and kernels for wartime food and industrial uses: palm oil from the Congo, babassu kernels from Brazil, cashew nut shell oil from India, copra from Ceylon.

• **Expediting Movement**—Sixteen development programs in Latin America and Africa, to supplement big supplies already available, are expected to yield even bigger tonnages of fats, oils, and other agricultural commodities this year and next. Basic policy is (1) to utilize existing resources, and (2) to cause no disruption of normal production patterns.

In some instances, the Board of Economic Warfare, cooperating in the development programs, sends missions to foreign countries—as to Cuba, Brazil, and the Argentine—to stimulate through government agencies the production of the commodities we need for stockpiling, for lend-lease, or for release to the trade. But principally the developments are in response to favorable wartime prices and a guaranteed market, which is offered by Commodity Credit Corp.

• **Typical Programs**—Development projects include babassu and oiticica oils in Brazil; castor seed, peanuts, and sesame seed in Mexico; palm oil and palm kernels in Liberia; dehydrated vegetables in Cuba; peanuts and sesame oils in Central America, Colombia, Ecuador, and Venezuela; rice in Ecuador, Brazil, and the Dominican Republic; peanuts, corn, and beans in Cuba; beans and lentils in Chile.

Principal use for babassu is as a substitute for coconut oil in the manufacture of soap, margarine, and other edible products, and as a plasticizer for vinyl resins in the manufacture of bulletproof glass. Oiticica oil is wanted from Brazil as a substitute for China's tung oil for use in quick-drying varnishes. Palm oil and palm kernels are sought from Liberia for use in a number of edible and industrial products. Peanuts from Cuba and Central America are for processing into edible oils. Cohune from Central America is a high lauric content oil.

• **Variety of Setbacks**—Hopes of bigger spring imports were reduced by a peanut failure in French West Africa, and by drought which cut the Argentine sunflower seed crop. India had below-normal production of peanuts;



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Egypt reduced its cotton crop so as to produce more food instead; Argentine exports of linseed are less than prewar.

Prospective offsets include the development program in Mexico, expected to yield a large tonnage of castor seed, sesame seed, and shelled peanuts in 1944—all new business on newly broken land. Development of production and procurement of palm oil and palm kernels in Liberia is also new business. Imports of castor seed and oil from Brazil, Haiti, and Ecuador total more than three times the prewar average of 55,000,000 pounds in terms of oil. Tonnage of cohune and sesame seed is in prospect in Central America, as well as a small tonnage of peanuts and sesame in Colombia, Ecuador, and Venezuela. Projects are also under way to develop production of fats and oils in Portuguese African provinces.

• Much Already Done—Natural products most difficult to obtain are the wild nuts and kernels. Unconcerned native labor and poor transport are barriers frequently more difficult to overcome than wolf packs on the high seas. Nevertheless, Commodity Credit Corp. landed in the United States more than 600,000,000 pounds of fats and oils during the last fiscal year.

Development programs in the Dominican Republic (rice, beans, corn, and livestock), Brazil (rice), Venezuela (dried salt fish), and Cuba (corn and beans) are to supply food to Caribbean areas and thus relieve the strain upon United States supplies. Puerto Rico alone is a receptive market for 30,000,000 pounds annually of Venezuela dried fish; with a little stimulation, Venezuelan exports could be hiked up to 100,000,000 pounds a year.

Production of rice in Ecuador, beans and lentils in Chile, and beans in Peru is to supply domestic needs. Still another project is CCC purchase of exportable surpluses of butter, sweetened condensed milk and cheese in Cuba for storage there until needed in the United States or in other Caribbean areas. Vegetables are being dehydrated in Cuba for military and civilian consumption.

• Philippine Supply Is Lost—United States imports of fats and oils from 1934-38 averaged 1,400,000,000 pounds a year. Imports during calendar 1943 are expected to total at least two-thirds of this volume, despite the severed supply of copra and coconut oil (640,000,000 pounds average prewar) from the Philippines. Replacement, in part, is copra and oil from Ceylon, Fiji Islands, and Tahiti.

U. S. exports may be more than five times the prewar volume of less than 300,000,000 pounds. High record domestic production of fats and oils, plus civilian rationing, make possible this wartime shift from import to export balance.

THE TRADING POST

Outline for Foreign Policy

Some inspired word-carpenter may yet define foreign policy in a phrase that will appeal to the business man more powerfully than Walter Lippmann's—but I doubt it. For he puts the whole matter squarely on the basis of solvency—the eternal principle that security is within our reach only so long as our commitments are balanced by our means.

* * *

In his newest book, "U. S. Foreign Policy: Shield of the Republic," (Little, Brown & Co.), he asserts that patriotic Americans have differed so sharply and so long without reaching a common view on foreign policy because—"they have forgotten the compelling and, once seen, the self-evident common principle of all genuine foreign policy—the principle that alone can force decisions, can settle controversy and can induce agreement. This is the principle that in foreign relations, as in all other relations, a policy has been formed only when commitments and power have been brought into balance. This is the forgotten principle which must be recovered and restored to the first place in American thought if the nation is to achieve the foreign policy which it so desperately wants.

"Without the controlling principle that the nation must maintain its objectives and its power in equilibrium, its purposes within its means and its means equal to its purposes, its commitments related to its resources and its resources adequate to its commitments, it is impossible to think at all about foreign affairs. Yet the history of our acts and of our declarations in the past fifty years will show that rarely, and never consistently, have American statesmen and the American people been guided by this elementary principle of practical life.

"No one would seriously suppose that he had a fiscal policy if he did not consider together expenditure and revenue, outgo and income, liabilities and assets. But in foreign relations we have habitually in our minds divorced the discussion of our war aims, our peace aims, our ideals, our interests, our commitments, from the discussion of our armaments, our strategic positions, our potential allies and our probable enemies. No policy could emerge from such a discussion. For what settles practical controversy is the knowledge that ends and means have to be balanced: an agreement has eventually to be reached when men admit that they must pay for what they want and that they must

want only what they are willing to pay for. If they do not have to come to such an agreement, they will never except by accident agree. For they will lack a yardstick by which to measure their ideals and their interests, or their ways and means of protecting and promoting them.

"If we survey our own course since the war with Spain, we shall find that there has been no serious and sustained conviction that American commitments and interests and ideals must be covered by our armaments, our strategic frontiers, and our alliances. In fact, we shall find that we have been the victims of a blinding prejudice—that concern with our frontiers, our armaments, and with alliances, is immoral and reactionary.

"Yet now that the Philippines have been lost, now that we have been attacked by a combination of exceedingly dangerous enemies, we must see how awful is the price we must pay because in our foreign relations for nearly half a century the United States has been insolvent. This is the time of reckoning. We are liquidating in sweat and blood and tears, and at our mortal peril, the fact that we made commitments, asserted rights, and proclaimed ideals while we left our frontiers unguarded, our armaments unprepared, and our alliances unformed and unsustained."

* * *

In his book Mr. Lippmann supports this indictment of our traditional attitude toward foreign relations and suggests a postwar program to implement a more enlightened conception. He tries to define a foreign policy that would command the united support of Americans because it conforms rigorously to American interests.

Following his analysis of the postwar interests of the United States, Great Britain, Russia, and China, Mr. Lippmann proposes a nuclear alliance between the first three, with a place for China as she becomes a great power, as the most promising basis for a world order that will rest not on sentiment but on enlightened interest, strong enough to have authority, and liberal enough to have its authority persist.

He makes a challenging and thought-provoking case which deserves to be considered in full detail by a large number of realistic Americans. To that end his book rates a widespread reading. Of one thing you can be sure: anyone who will spend the few hours required to read it will be better informed on this critical aspect of postwar national policy than the great bulk of his fellow Americans.

W.C.



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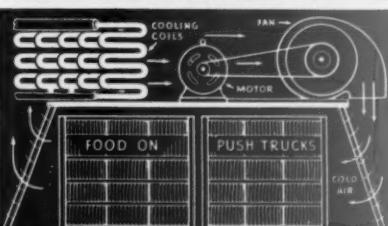
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SECTION VIEW OF FRICK-FREEZING SYSTEM

THE TREND

PROFITS—THE KEY FACTORS FOR 1943

The trend of corporate profits is of basic importance in a war economy. This is reemphasized in the speculation started by the Dept. of Commerce estimate that the first-quarter 1943 net after taxes was 18% higher than in 1942 (BW—Jun. 26 '43, p111).

• Before going too far with that figure, however, we should note that it cannot be taken as quite so definitive as Commerce's annual estimates; the quarterly sample of corporate reports which the department uses is much less complete than the yearly one. To provide background for a statistical evaluation of the factors working on the profits totals, the government agency's annual data for all except finance and miscellaneous corporations will be helpful. The key figures (in billions of dollars) are:

	1929	1939	1940	1941	1942
(1) Gross receipts	132.4	114.7	129.1	169.6	208.2
(2) Profits before taxes ..	7.4	4.9	7.3	13.6	18.2
(3) % (2) to (1)	5.6	4.3	5.7	8.0	8.7
(4) Profits after taxes ...	6.5	3.9	5.0	6.9	6.9
(5) % (4) to (2)	87.6	78.5	68.9	50.9	37.8

Two further facts about the 18% estimate should be considered. Commerce applied to this year the 1942 percentage relation between taxes and profits. However, with more companies placed high in the 81% excess profits tax brackets this year, less profit will be retained than last year. Secondly, until now the chief factor boosting net has been the rise in gross sales: more units over which to spread fixed costs mean wider margins. But, while this year's volume is above 1942's, it is nonetheless tending to flatten out as the economy approaches maximum utilization of manpower, materials, and machines. Therefore, the year-to-year gain in volume, and so in profits, will run smaller in the later 1943 quarters. Incidentally, the first-quarter gets a particularly favorable start because last year many corporations were converting to armament, but not yet producing.

• These considerations would indicate that, other things being equal, the increase for 1943 as a whole will be nearer 10% than 18%. And that conclusion is confirmed in another way. If one follows the gain in profits before taxes from a quarter of one year to the same period of the next, one finds these gains declining—from 1.8 billion dollars between early 1940 and early 1941 to 0.8 billions between first-quarter 1942 and first-quarter 1943. Projecting these forward and assuming a slightly higher tax take this year gives 10% as the likely gain in 1943 net over 1942.

But other things are not equal. With both volume and the tax-take tending to flatten out this year, the key factors in the profits trend become prices and costs—and the squeeze between them. For fundamentally, prices are fixed while costs are rising. Of course, higher

costs must be recompensed in those instances where they endanger production; but, basically, ceilings and renegotiation limit corporate prices. And while wage stabilization does tend to anchor basic pay rates, nonetheless labor costs rise with the manpower shortage.

Corporations must employ workers for longer hours at time-and-a-half pay; entrance rates must be lifted to attract new workers, and skill differentials raised to hold key employees. More man-hours must be bought for the same work, because, in the aggregate, labor efficiency is declining. As the labor shortage becomes more acute, these tendencies accelerate. The previous table shows that, even from 1941 to 1942, the margin of profit before taxes to gross receipts rose only from 8.0% to 8.7% despite the spreading of fixed costs over more units. With volume flattening out now, margins actually tend to be squeezed.

• The question is: With excess profits taxes as a cushion, how hard a drop would profits after taxes take if pushed by increased labor costs? A notion of the answer can be had from a reasonable guess as to how the 1943 figures will look. Assume receipts to run to 230 billion dollars, profits before taxes to 21 billions, and profits after taxes to seven billions. Now, labor costs total something like 25% of gross receipts—more in such industries as railroads, less in such others as retailing—or, roundly, 58 billions. If these costs went 10% higher, almost six billions would be nipped off corporate pretax profit; post-tax profit would be reduced by one-fifth to one-third of that amount—say, 1.5 billions, or 20%.

It is this relation—a 10% jump in labor costs equaling a 20% cut in post-tax profit—which is vital, though it would be partly tempered by compensating price rises.

Though the increases in labor costs inevitable to manpower shortage may not total 10%, the fact is that the tightening price-cost squeeze will more and more offset the rise in gross volume as the year runs out. This would mean not only a post-tax profit gain of less than 10% for 1943 as a whole, but also a decline in the profits curve beginning late this year or early next. From all this, it becomes clear how much of an impact profits would feel from any upward readjustment in the Little Steel wage formula. Though the boost might at first apply only to union-organized lines, competition in a shortage labor market soon would lift all wage rates correspondingly.

• All in all, the war trend of post-tax profit is apt to remain fairly steady, as it did between 1941 and 1942; the total might rise slightly this year, decline slightly next. But that is only if the inflation line is held. If, initially or ultimately, the wage front breaks, business cannot long afford to hold to government-set contract or ceiling price lines.

The Editors of Business Week

Business Week • July 17, 1943

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